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THE DEVELOPMENT OF SCIENTIFIC MANAGEMENT IN ENGLAND

By OLIVER SHELDON

BENDING the more closely over his page as the daylight, piercing the dull lights of his window, slowly waned, one Walter de Henley in the earlier years of the thirteenth century wrote a treatise for his son on the business of husbandry. The sage advice bequeathed in this script marks Walter de Henley as one of the earliest protagonists of scientific management. His recommendations include a full investigation of the property, the selection and training of workers, the setting of definite tasks for ploughing, provision for the regular inspection of implements, the preparation of exact costs, the close study of the soil and the crops, and the planning of each day's work. Thus did Walter de Henley, ever and anon turning his eyes to the harrowed fields outside, plan these early steps in the scientific management of his property. Others have taken up the quill he threw aside. Each generation has doubtless had its scribe, who thought scientifically about the ploughing of the soil, the throwing of the shuttle, the beating of the iron, or the hewing of the tree. Then came the days when the ploughman, the weaver, the smith, and the woodman discarded the old tools of their crafts, and strode amazedly into the towns where the new factories reared their ugly forms. Here again, the scientific thinker brooded over the scene. Seizing his pen, Charles Babbage, doubtless like many another, strove to plan order where chaos reigned, and in 1833 published his famous *Economy of Machinery and Manufacturing*. So, finally, the torch was handed on from one generation to another, till, amid the immense structures of American industry, it passed to the hand of Frederick Taylor.

Walter de Henley had never heard of "Scientific Management" and in some respects perhaps he was fortunate in the fact. Few phrases have been so severely mishandled or so woefully misunderstood. What exactly does the phrase mean? After all, if indeed a

science of management is a practicable possibility, an essential preliminary is to determine the precise significance of its terminology. In the science of medicine, the "basilar membrane" means one thing only, and that meaning is the meaning attributed to it by all who practice medicine. But in the science of management, we have not even yet determined precisely what the word "management" means, and only in a few instances the meaning of any particular words or phrases describing particular processes or mechanisms of management. Words are the means by which we translate thought into definite images, and a vague terminology is evidence of loose, unformed, or confused thinking. It is imperative, therefore, to crystallize our thoughts so that our technical terms convey a precise meaning, and a meaning which is precisely understood by all who perform any task of management. It is convincing testimony to the infancy of our science that most serious treatises on it necessarily begin with a series of definitions — which others may or may not accept. What, then, do we mean by "Scientific Management"?

I

I think it would be unfair to the genius of a great man to say that Frederick Taylor was a master of exact diction, but for what perhaps he lacked a little in precision he certainly made recompense in the enthusiasm and resolution of his language. Therefore, though we may find no very circumspect definition of his subject in his writings, he provides ample to guide us in the very strength and earnestness of his words. What, then, does he tell us about the meaning of scientific management?

"I want to tell you as briefly as I can," he says, "what scientific management is. It certainly is not what most people think it to be. It is not a lot of efficiency expedients. It is not the printing and ruling of a lot of pieces of blank paper and spreading them by the ton about the country. It is not any particular system of paying men. It is none of the ordinary devices which unfortunately are going by the name of scientific management. It may in its essence be said in the present state of industry to involve a complete mental revolution, both on the part of the management and of the men." And again he says, "The essence of modern scientific management consists in the application of certain broad, general principles, and the particular way in which these principles are applied is a matter of entirely subordinate detail." Elsewhere he describes scientific management as consisting fundamentally of "a certain philosophy which can be applied in many ways." Then, perhaps most illuminating of all, he wrote, "The gist of the matter is that scientific management demands that the acts of the men and movements of all these men and elements shall be regulated according to clearly defined scientific rules and formulae." There is plenty here to give the lie to what many have construed scientific management to be. It is not a series of intricate tricks by which, with a certain dexterity, a species of rodent profit can be produced out of a debilitated industrial top hat. Neither is it a set of medical specifics by which the fresh hue of health can be induced in the pallid cheeks of an anaemic business. It is not a portable "compactum," by the introduction of which, if everything be hung on its proper hook and placed on its proper shelf, order can be made to replace con-

fusion, and nothing further can go wrong. It is not a carefully stated theory, with numberless paragraphs and subsections; neither is it a program to be declaimed from the hustings.

Scientific management, in my conception of it, is that form of management which deals with its problems and daily activities by the use of the scientific method and makes provision for its continuous application. Consequently, it is also that form of management which, on the basis of the classified knowledge derived from the constant use of the scientific method, conducts its work and the work of those it controls according to standard rules and, what one may call, scientific "laws." It is, therefore, that form of management in which the objects and methods of any activity have been determined, not by the opinion of any one individual, be he superintendent or laborer, but by the scientific analysis of all the available facts, and the determination of "standards" on the basis of those facts—standard methods, standard qualities, standard products, standard times, standard outputs. By the "scientific method," I mean the method of investigation, measurement, definition, classification, and standardization; or, in the words of Mr. J. W. Schulze,[1] "the process of applying analytical and synthetical reasoning to a proposition and to all available data concerning it, that is, dividing a problem or a proposition into its component elements, reviewing them, improving them, eliminating some, introducing others, and finally bringing the elements together again into a new program or method or product or conclusion."

It will be clear, of course, that in the light of such a definition, scientific management covers all branches of management in all kinds of enterprises. As applied to industry, it covers factory management, sales management, financial management, transport management, and, indeed, every branch of activity which requires direction and control. It covers all species of management, whether it be the management of an industrial concern, of a state, of a hospital, of an army, or of a church. The principles of scientific management are, to my mind, universal and universally sound.

II

I make no apology for this somewhat prolonged departure from my main theme. It is quite impossible to discuss the development of scientific management in any particular direction or in any particular country, unless one is perfectly clear as to what scientific management truly is. This need for the definition of our subject is perhaps specially pressing in considering the development of scientific management in England. Indeed, if one accepted the definitions which some have either directly or by implication attributed to scientific management, there would be little enough for me to say, beyond the mere statement that "we know it not." It is only when we define the subject in the broad sense I have already attempted that the lights appear in the darkened panorama to tell us that the city is not indeed without citizens.

The development of scientific management in England has undoubtedly been dogged in its progress by retarding factors which, as one looks back, may perhaps have operated to the good, however unreasonable in themselves they may appear. Their effect has been to retard the growth of any coordinated effort to apply its principles, but they

[1] *Taylor Society Bulletin*, June, 1920.

have not by any means prevented dispersed experiments being made and, moreover, they have served the very useful purpose of distinguishing the wheat from the chaff. If the growth, therefore, has been slow and undirected, yet it has perhaps been the more sure and wise.

There can be no denial of the fact that the main factor which has deterred the progress of scientific management in England has been the method of its presentation. It was, especially in the earlier days just prior to and during the war period, decked out in all the gay colorings of the "efficiency" enthusiast. It has been displayed like gaudy shopware, which for a modest sum one might buy, as it were, across the counter, and which once in the buyer's hands, would become forthwith an Aladdin's lamp or Ali Baba's password. It has been advocated as a "system" for this and for that. Every little idea, from a new type of office stool to a new form of cost sheet, was made to fit into this new "system," by which management could solve the labor problem and swell the profits by the mere twisting of a handle. British manufacturers were not deceived; there exists no body of men to whom the superficial and specious makes less appeal. Scientific management, accordingly, in such distorted and flimsy form, fell on the most barren of soil. It was loaded with effacing epithets; it was "hot air," "eye-wash," "a stunt." British industry distrusted the whole "bag o' tricks." It is, of course, all to the good that this conception of scientific management should have been generally rejected, but it is clear that the development of the true scientific spirit suffered in the process. The seed was ground under foot together with the thorns which had sprung up and choked it. Scientific management as a practical philosophy of industry was definitely slowed up in its growth.

Here and there, however, good seed fell, and the ground was favorable. Often enough, however, the ground was not the factory. It fell in the laboratories of the scientist and began to be developed as a theory. Scientific management for a while rather lost touch with practical affairs of industry. "Taylorism" became the hobby of a few, and those few for the most part were not business men. The pursuit of the hobby naturally led the experimentalists to interest themselves in active industry, but their overtures were viewed with suspicion. Scientific management, therefore, encountered its second main obstacle—it came to be looked upon as "theoretical," with all the vague enormities which that adjective is generally supposed to imply. British industry has always distrusted the man who has won his knowledge from a book or from a laboratory; it has an almost reverential regard for "practical experience." Here was a new theory, touching the very heart of industrial life, inextricably linked with all the cheap-jack panaceas of the magazines and the glib fables of nimble opportunists—a theory not even clear to those who promoted it and calling for experiments and investigations which certainly presaged trouble and expense—and, in any event, only a theory. Scientific management, therefore, made no headway. It had yet to find some reason for its application, other than just for the theory's sake. The inexorable pressure of events, however, came to its aid. With the continuance of the war came the insistent demand for increased output; then, in the later post-war period, came the urgent call for economy in production. Coupled with this joint necessity for

increased output at reduced cost was the increasingly clamant need for meeting the requirements of a much intensified labor problem. British industry found itself first riding light-heartedly on the crest of the wave, then plunging into the abyss of depression. Both extremes increased the complexities of management and multiplied the problems with which it was called upon to deal. Most portentous of all was, and still is, the problem of labor—labor, highly organized, yet swayed to and fro by movements which no organization could keep within bounds; labor, swept forward by impulses and aims which defy definition yet strike to the foundations of our social ethics; labor, "the giant with the feet of clay," perhaps, yet more certainly, the giant with the feet of a blind man and the hands of a child, like Samson in the temple, with his great arms about its pillars.

Management, faced with a thousand complex problems, found its house in disarray. It found itself precipitated into a maze, where every turning revealed some new difficulty. It had not prepared for such circumstances. "There is," has said Lord Milner, "a loss of confidence in the management," and the confidence was forfeited when management blundered into a new era equipped with the devices of an era that had quickly passed. Turning this way and that, management resorted again to the mechanisms of scientific management. It did so with misgiving and hesitation. During the war, British industry received its initiation to scientific methods through government pressure. Exact costing systems had been required in munition factories; research had been immensely developed; welfare work and the investigational work connected therewith had been undertaken on a big scale. After the war, there was the inevitable British reluctance to believe that anything the government did was right. Yet, the introduction to the methods of scientific management had been made in actual practice and not a few were prepared to go further. Unfortunately, however, those who stepped out along scientific lines seized upon the mechanisms rather than the philosophy of Taylor. More particularly, they seized upon the idea of a planning room and the idea of time study. It was only rarely realized that these were but parts of a whole scheme; that, in any case, the scheme was highly adaptable and must be fashioned to suit particular conditions; further, that the scheme was the practical application of a general mode of thinking and that the latter was the real root of the matter; and, finally, that the mechanisms applied singly, without relation to each other and without relation to the embracing philosophy, might work more harm than good. "I have never said that scientific management could be used for bad," said Taylor. "It is possible to use the mechanism of scientific management for bad, but not scientific management itself. It ceases to be scientific management the moment it is used for bad." All this was not realized. Planning departments were set up; time study was begun. Where they were not actually applied, they were much discussed and considered.

In this way, scientific management met its third rebuff. It was found, either in practice or by examination, that these particular mechanisms often aggravated trouble. Time study led to rate-cutting, and rate-cutting to friction. Planning led to increased overhead costs which, in the older idea of overhead costs, could be nothing but an evil. There has thus come about the more insidious opposition to scientific man-

agement—that, after close examination, and in some cases practical application, these mechanisms of scientific management have been found deleterious to real efficiency. One knows the stock objections too well for them to need repetition. In this country, those objections carry most weight which accuse scientific management of imposing a harder burden on the worker. Nevertheless, though here again scientific management received a further check, the cumulative effect of the experiments and study was not inconsiderable. Behind the mechanisms a few began to discuss principles, and the principles gave the lie to the alleged failure of the mechanisms.

III

Thus far, I have treated of the development of scientific management in a semi-historical way. To do so, though convenient, may perhaps give a wrong impression. Some plants have yet to begin the journey; others have passed through all these stages and have attained a kind of progressive normalcy. Some will still argue that scientific management is just a set of efficiency expedients; others will have gone further and will criticize adversely some one or other of its mechanisms. But, though some have boldly applied some one aspect of the system and have perhaps retraced their steps, and others have picked out one attractive idea without delving deeply enough to understand its connection with the philosophy of scientific management, there has been a slow and gradual movement forward since the war. Haphazardly, without much conscious connection with the teachings of Taylor, the scientific method in management is being increasingly used. It is, indeed, strange to witness how even those who condemn scientific management are busily engaged in applying it. This goes to prove that the storms of criticisms have all had their value. Perhaps we have been slow, but it seems that, having avoided the rocks and shoals, we are the more likely to sail into the deep, sure water. The last decade, behind all the trumpetings of the enthusiast and criticisms of the cynics, has undoubtedly witnessed the beginning of the move forward. It is all very obscure; the sound of the wheels of progress is muffled. Each individual factory, consciously impelled by no precise motive, yet acting in the spirit of the age, is making its own tentative experiments in its own way. New ideas are not being adopted because Taylor advocated them, or because they are recommended in the scientific management text-books, but simply because there seems to be some indefinable pressure which causes us all to be more scientific than formerly. And, all unknowingly in many instances, we are coming to the fundamentals of Taylor himself. We are, as it were, fulfilling the prophecy of the prophet whom we rejected.

Take a crow's-nest view of our industrial vessel. Here is a factory planning unit in operation; there are experiments in psychological selection. Here we find that every job has been time-studied; there we find no time study, but an elaborate system of market analysis. In this factory, we find that the organization of the controlling staff has been most carefully worked out; in that factory, we find very detailed and expert attention being given to the technique of the factory processes. On one side, we may discover the most elaborate and scientific planning of advertising; on another side, the same methods being applied to the training of foremen. In many places,

costs are 10 times more accurate and detailed than they were 10 years ago; in others, layout has been planned with the most scrupulous attention to detail. Research of all kinds—mechanical, statistical, market, labor, fatigue, and so forth—has come to occupy a privileged position, which but a few years ago would have been considered ludicrous. Everywhere the facts are demanded, not just the bare, obtruding bones, but the minute, detailed facts. There is a growing appreciation of a technicality of processes; that they must be analyzed and their details codified before they can be properly supervised. There is a prevalent opinion that our conception of what constitutes foremanship must be revised. Thus, in manifold ways in manifold plants the scientific method is being increasingly used. "Management is certainly in the midst of its growing pains," I have said elsewhere. "Beneath the somewhat hard and weather-beaten skin, there is every evidence of growth. There is a reaching after new ideas, a deeper delving after facts, a more deliberate founding of policy upon scientifically worn data, a closer examination of detail, a wider appreciation of costs and measurements of one kind or another, and, perhaps most significant of all, a slowly developing search for the underlying purpose of industry—a search stimulated by the wide understanding of the need for the human milk of cooperation." [2]

IV

Thus far, I have endeavored to give the general impression that, though what one may call the scientific movement in industry is stumbling forward, its progress is undirected, dispersed, opportunistic, and spasmodic. I think, however, that one may distinguish certain broad lines on which it is moving, and certain regulating influences which tend to determine its path. Without doubt, the main factor molding the development of the scientific method in British industry has been and will increasingly be the labor conditions of industry. Every movement of thought affecting industry has been molded by this fundamental factor. Indeed, the dominating influence in the industrial history of the past half-century has been that exercised by the emergence and gradual crystallization of labor aspirations and aims. In this, the growth of trade union organization is but a part, a part of a wide-spread development which has brought us at every turn face to face with the basic humanity of industry. A century ago we passed through a so-called Industrial Revolution, in which we plunged into the "machine age." Today we are in the midst of a second Industrial Revolution, in which we are tearing at the bonds which a "machine" conception of industry imposed upon us and fighting our way to a revised "human" conception of industry. The past gave us a vision of industry as a vast maze of machines, buildings, systems, and materials; we are now being compelled to see that industry is, rather, a complex form of human association; that it is not a mass of machines and processes, but a body of men; that it is not a complex of matter, but a complex of humanity; that it is not an intricate system of mechanical devices, but a magnified nervous system. This second "revolution," moreover, is not a movement confined only to the bounds of industry; it is, rather, a social and communal movement. The demagogue, parading this or that remedy for the ills of a disordered society; great

[2] *Taylor Society Bulletin*. Vol. VIII, No. 6. December, 1923.

masses of the people, dumbly appealing that the industry of the future shall be founded on some commonly accepted moral basis; philosophers and business men together, searching for a truly ethical basis for industry, and experimenting with this and that device for giving the human element in industry its proper sphere and outlets; church, state, and every thinking individual, pressing forward towards a form of industry which, as Henry Ford says, will provide "not only a living, but a life"—one and all are elements in this gigantic remodelling of industry.

Amid such circumstances, scientific management has spent its early years. How far, in this, one seems to be from the planning rooms, the stores inventories, and the instruction cards of scientific management systems, yet how close to the deeper philosophy and wider horizons of Taylor. "Scientific management is for me primarily a means of bettering the condition of the working people," he said. British industry is, as yet, a long day's march from realizing the contribution which scientific methods can make to the solution of its human problems, but it has at least this to its credit, that it has driven to the heart of industry and has applied scientific thought and work to the elaboration of new methods and new objectives designed to promote industrial well-being. It thus happens that a large proportion of the scientific work in management of the past few years has concerned itself with the conditions of labor and schemes for providing labor with avenues for its natural impulses and desires — hence the very great thought and the wide experimentation which have been applied in such directions as the selection of employees by psychological, medical, and other tests, the training of workers, the study of atmospheric and general health conditions, schemes for pensions and allowances in cases of invalidity, schemes of unemployment insurance, the education of workers, the provision of sports grounds and establishment of clubs, profit-sharing and co-partnership schemes, the manifold schemes for securing employee representation, machinery for the rapid ventilation of complaints, the methods of promotion and making of new supervisory appointments, and the machinery for dealing with trade unions. In these directions, all of which intimately affect the daily life of labor, real scientific work has been done. Most promising of all is the rapid advance in applied psychology, or "the technique of human behavior." No more truly scientific work is being done in this country today than that of the National Institute of Industrial Psychology. Other countries may have advanced much farther in the scientific study of processes, mechanical methods, means of handling materials, storage systems, and planning of work, but it is doubtful if any country has examined so minutely or delved so deeply into the problems of human relations and the means for providing labor with good conditions, both physical and mental. That this is so is a natural outcome of the highly sensitive condition of British industry. The cobbler naturally turns his attention to where the boot most pinches.

The absorption of British industry in its great problem of human relations, however, has not only caused scientific methods to be applied mainly in this direction, but further has molded the whole attitude of mind of its leaders. Industrial management in the last decade or two has become overwhelmingly the management of human beings. The main problems are human prob-

lems; the daily difficulties are human difficulties. Hence, the major impression left on the minds of those charged with the management of industry is that management primarily is an art. Industry lacks the throb of corporate human enthusiasm, the stimulation of human interest, the oil of human cooperation, the swinging bustle of spontaneous effort. To bring these to the boil, to fill industry with the surge and tide of warm, eager life, is not the task of the scientist. The need is for leadership, for high aims which draw the last ounce of effort from every rank, for impelling motives which send file after file of workers to the toil which they love—that is the picture to be painted. This is beyond all science; it is a question of ideals and motives and manliness, not of systems and slide-rules and records. Management—it is the art of moving, guiding, inspiring, bringing and welding together masses of men and women.

In cold-blooded terms, this conception means that the progressive British employer is more imbued with the fact that management is a synthetical art than with the equally true fact that it is founded on analytical study. He is approaching industry from the top, viewing all its component parts as one whole, rather than from the bottom, examining all its elements as separate and distinct units. He is dealing with a mass problem, not with an individual problem. He is called upon to unify, not to dissect. From this it follows that he is not so vitally concerned in the details of operative processes as in the methods of coordination and direction. His attention is attracted to the problems of higher organization. Considerable scientific work has been accomplished in the planning of departmental divisions and interworking, in defining the duties of the higher officials, in the use and location of committees, in the correlation of finance, production and distribution, and similar problems. British management is concerned, first of all, to make itself rather than the workers efficient. There is, therefore, generally speaking, more scientific analysis and planning of the work of direction and control than of the operative work being controlled. There is a greater appreciation of the need for management to be capable of exercising its art than for the equally urgent need that the technique behind the art should be sound.

Economic conditions are mainly responsible for the third line on which the scientific method is being developed —the selling of the goods. Since 1921 it has been a buyers' market, and consequently an increasing proportion of effort has been expended in the selling end of every business. The scientific method has here come into its own. Market research has been developed on a considerable scale by many organizations. Sales policies are determined only after a vast amount of investigation. Advertising schemes are preceded by intensive analyses of population, trades, and consumers. Elaborate methods are adopted to produce goods which will satisfactorily meet the needs of consumers. Indeed, in every direction truly scientific work is being done, to ensure successful salesmanship, sound sales policies and management, and the fullest correlation of sales and production as to the quantity, quality, and character of the goods offered for sale.

This recent concentration of effort upon the marketing and selling of the goods has perhaps a little overshadowed the scientific work which has been done in other directions, though present tendencies indicate that the scientific method is receiving a more general trial

in the solution of selling problems than it has ever received in other branches of management. It would be safe to say that 30% of the reasonably large businesses of the country are using, in a greater or less degree, some form of scientific analysis in the framing of sales policies and the planning of their sales organizations. The same could certainly not be said of other branches of management, with the possible exception of costing. As a result of government pressure during the war, detailed costing received a very considerable impetus. Even so, Mr. J. F. Whiteford wrote,[3] in 1919, "It is estimated that not more than 5% of the manufacturers in the United Kingdom know the actual costs of the various products of their factories. It is further estimated that not more than 1% know their costs within sufficient time for the information to be of real benefit." Since then a good deal of progress has been made, but the tendency has been to rely too much on costing as a weapon of investigation. Costing serves a dual purpose —firstly, to determine selling prices and the profitableness of operations and, secondly, to indicate the places where costs are high. In this latter, costing has been regarded as the one and only form of measurement, and standardization has been relegated to a secondary position. The warning of Taylor in this connection calls for more notice than it has received. In discussing railroad costing, he indicates the necessity for industrial establishments "to scrutinize very carefully the exact use which they make of the costs which they determine," and goes on to say: "I look upon it as a matter of far more importance, for example, that they should take up in detail the study of each small activity that occurs on their road, and standardize all of these activities, and in this way reduce their expenses." I am inclined to think that British manufacturers have relied on costing where other forms of measurement and a more general application of standards would have served their purpose better.

In the use of time study and the development of factory planning, British industry is perhaps inclined to lag behind. As Mr. MacKillop says, "There are 100 progress offices in 1921 for 1 in 1900, but there are 100 progress offices for 1 planning department." This intensely minute analysis of factory operations and the detailed and constant control based on this analysis is work which, in the main, still lies ahead. That this should be so is the natural outcome of the preoccupation of British industry with the major problems which I have already suggested.

V

From this brief résumé of activity it will be clear, however, that much scientific work is being done. What is lacking is a conception that will bind all this work together. The scientific method is being adopted spasmodically as the need arises. It is not being adopted as a definite plan of campaign, nor as a complete philosophy. It is rarely realized that the wholesale adoption of scientific methods constitutes a revolution in factory management, or that their adoption can serve any purpose other than the solution of some immediate problem. It is often overlooked that the primary object of Taylor's work was "to remove the cause of antagonism between the boss and the men who worked under him." Scientific management was to him a means to the solution of the problem of indus-

[3] Whiteford, J. F. *Factory Management Wastes.* Nisbit & Co., 1919.

trial relations; it was not just a useful *weapon* for the determination of some knotty, isolated question. It was a philosophy, not a weapon. This conception has yet to be realized, and it is not too optimistic to think that, in this, British industry, where the problem of human relations is probably more acute than in any other country, will lead the way. So far, industrial relations has been regarded primarily as a problem in sociology and not sufficiently as a problem in management. Where it is attacked as a problem of management, the tendency is to work at palliatives rather than at a cure. We have studied with great care and have widely applied various schemes of welfare work, insurance, works councils, and conciliation machinery. But surely these are means to alleviate a complaint which originates in the daily work of the factory. We have yet to attack the problem in the stages before these things are necessary. In the first instance, any remedy for the strained relations of labor with its industrial partners must resolve itself into an improvement of the management. The "labor problem," as we phrase it, leads us directly to problems of wages, output, and sales, and we have yet to discover, I submit, how potent may be the effect of scientific work in these managerial activities upon the solution of this one great problem of industrial "humanics." We have still to learn how the scientific standardization of processes may affect the whole wage problem, for example, or how the scientific control and planning of sales may affect the whole unemployment problem. It is, indeed, impossible to divorce the problem of industrial relations from the day-to-day management. It will not solve the problem to set up welfare departments, works councils or conciliation systems, eminently desirable as these activities undoubtedly are. The beginning of the solution lies in the control of each man's work. While a worker's pay is dependent on the fixing of an unscientific rate, while his work is liable to constant halts owing to unscientific scheduling and planning, while the demand for his output from the market is irregular and not scientifically planned, it is unreasonable to expect him to place confidence in the management. Works councils can never compensate for unscientific management. When that "complete mental revolution" of which Taylor spoke has been effected, when it has been generally recognized as a principle that it is essential to substitute "exact scientific investigation and knowledge for the old individual judgment and opinion in all matters relating to the work done in the establishment," the problem of industrial relations will have begun its solution. It is, I repeat, in the first instance a problem—indeed, *the* problem—of management. When management has put its house in scientific order, when the mental attitude of the past has given way to the new mental attitude of obedience to scientific laws which neither worker nor manager can but regard as true, the problem can safely be further examined by sociology in its wider aspects, with some certainty of a successful solution. The overwhelming impetus of the problem, particularly in British industry, gives one hope that this pathway will soon be explored, and this conception of scientific management, as one embracing philosophy, adopted.

In another sense, further, there is a need for unity. There is little corporate feeling in the development of the art of management. Each business is trying out its own experiments, conducting its own research, following its own lonely path. There is little sense of

management being a common profession, irrespective of the activities being managed. There is little appreciation of the possibility of all who practice the art of management having anything in common. We lack the free interchange of thought and experience which alone can give birth to any unifying corporate spirit. Associations of one kind or another have been started, but these in their turn are dissociated and scattered. We need some common organization, binding together all who take a part in management. We need to demolish the artificial barriers which are set up between businesses, so that every move forward may be made common knowledge. No science was ever developed where each scientist kept his knowledge to himself. We need a corporate management spirit. This will come, when the conception is more widely accepted that management is an activity which, in all plants and undertakings, has features in common. When we have unified our *idea* of management, we shall be in a position to unify our efforts in pursuit of that idea. When we have found that all management can be governed by a common motive and conducted by a common method, these things of themselves will provide the reason for bringing all our knowledge together and for working together for the advancement of our common profession. This is, indeed, the primary work of the future—to realize the essential oneness of the philosophy of scientific management and to establish, on that basis, a corporate unity representing the thought and work of all who practice the profession. In this I do not doubt that British industry, perhaps in its own reticent way, will play a part; and perhaps it is not too sanguine to hope that this corporate unity will be a professional bond between industrialists the world over.

WHY NOT DO AWAY WITH PROFITS?

By WILLIAM TRUFANT FOSTER AND WADDILL CATCHINGS

"PRODUCTION for use and not for profit"—the slogan of the League for Industrial Democracy—is an essential part of most radical programs. It is the core of the indictment of our price and profit economy, as presented by the Webbs in their *Decay of Capitalist Civilization*. It was the chief aim of the Russian experiment. It appeared, in one form or another, in the platforms of all the radical parties in the recent election in the United States. It always appears in arguments for government ownership and control of industry. But in none of this radical propaganda do we find a clear conception of the origin and function of profits or the consequences of abolishing profits. As a help toward such a conception, a few facts are indispensable. Elementary, important, indisputable as these facts seem to be, they are nevertheless either ignored or impatiently brushed aside as irrelevant by most reformers.

I

First of all, we should note the crucial fact that profits are sometimes losses. In considering what kind of public control should be exercised over business as a whole, or over a particular industry, and what proportion of private income should be appropriated for public use, we must not overlook the possibility that, in any given year, profits may be a minus quantity. That possibility seems obvious: every day has its record of passed dividends and business failures. Yet much of our proposed industrial legislation and some of our existing laws ignore the possibility of business losses, or are framed on the tacit assumption that in any given year a corporation need have no anxiety either over losses suffered in the past or losses that may be suffered in the future.

Starting with the assumption that winds blow only in one direction, we can develop an extraordinary theory of aeronautics; but it will not help us to fly. Upon the assumption that business is always conducted at a profit, or can be so conducted, we can construct in imagination an extraordinary industrial society; but it will not work. We cannot understand what will work—what is going on in business, or why, or what we can sensibly do about it—unless we grasp the full significance of these facts: that no concern can possibly tell in advance how much money it will make or lose; that, in any given year, the profits of some concerns are offset by the losses of others; that paper profits do not always turn out to be real profits; and that the large losses of a given concern in certain years must be more than made up by large profits in other years, or the concern must go to the wall.

In a different industrial order the problem of losses would appear in different guise, but it would still be a problem. The reformers overlook it in theory but they could not in practice. Under communism at least some activities would be as badly managed as they are today. Society would suffer thereby as much as though the net results of inefficient management were called business losses. In a communistic state such losses, now borne by comparatively few people, would be distributed, theoretically, over the entire population.

In a state which operated only a few of its industries, free from competition, the problem might be solved for these industries by fixing prices on a monopoly basis, or by paying deficits out of tax receipts; that is to say, by appropriating for the use of state enterprises whatever was needed of the profits realized by private enterprises. Thus the United States Government covered the losses due to its mismanagement of the railroads. But no government could operate *all* industries in this way. In some form or other, the problem of vast business losses would persist in any conceivable industrial order.

These losses are far more extensive than they are commonly supposed to be, since, as a rule, only the *profits* of business are taken into account by current condemnations of capitalism. In the United States, during the year 1921, not one-half of the organized business enterprises realized any profit. For that year, 185,158 corporations in the United States reported to the Treasury Department no net income whatever. Indeed, over half the concerns engaged in trade, and over three-quarters of those engaged in mining and quarrying, reported deficits. In the manufacturing group, only 37,000 succeeded in closing the year with any net income whatever; more than 42,000 did not succeed. The total deficit of all the corporations that reported no net income was nearly four billion dollars.

What induced these 185,158 corporations to carry on enterprises which yielded them, as a reward for their efforts, nothing but this huge deficit? The answer is to be found in the record of the 171,239 other corporations that succeeded, during the same year, in realizing a net income of more than four billion dollars. Every one of the reporting corporations, the successful and the unsuccessful, ran the risk of suffering losses in the hope that they might make profits.

II

Both the losses and the profits resulted from taking risks, and risks are universal. This is the second of our fundamental facts. The prospector drills where there may be no oil. The clothier relies on spring stocks that may not arrive. The electric railway company constructs a road that the coming of the automobile may render useless. The bond buyer runs the risk of an inflated currency. For the orange grower, there is danger of a frost; for the cotton planter, the boll-weevil; for the woolen manufacturer, tariff revisions; for the phonograph maker, the radio; for the railroads, Congress; for the contractor, strikes. So it is the world over. Every branch of business enterprise faces not only risks that are the common lot, but also risks that are peculiarly its own.

No business man is ever free to decide whether he will or will not escape these dangers. Every business man must run risks. He can usually choose among risks; but choose he must. Every cotton manufacturer, for example, must buy cotton. If he buys cotton today, he may buy on a falling market; if he does not buy today, he may be forced to buy later at a ruinous price. If he borrows money in order to buy cotton, he may not be able to pay the interest; if he postpones buying, he may not be able to get the cotton, and so may be forced to close his plants. Again, he must either use what equipment he has, or supplant it with new equipment. If he scraps his old machines and installs new models, his increased costs may enable his competitors to undersell him; if he uses his old machines, his competitors,

by installing new ones, may undersell him. If he invests in advertising, he may fail to get his money back; if he does not advertise, he may fail to sell his product. If he opens new mills in states where labor costs are lower, he may incur expenses which more than offset the gains; if he stays where he is, producers in more favored states may take away his customers. He may allow his credit department to cut down the risk of bad debts at too great a loss of sales; on the other hand, he may allow his sales department to extend his markets at too great a risk of bad debts. Every day he must make decisions. Always they are decisions to meet certain risks instead of others. Postponing a decision is in itself taking a risk. In short, every business man is beset on all hands by risks that are inherent in the nature of business: if he runs away from some, he is sure to run into others.

Risks are universal because human beings and human society are what they are. In a static state—in what Ricardo called a state of natural adjustments—there would be no risks. By natural or "normal" rates of wages, interest, and profits, the early economists meant the rates that would prevail in a society that was perfectly and finally organized and therefore free from the uncertainties that go with progress. "Reduce society to a stationary state," says J. B. Clark, "let industry go on with entire freedom, make labor and capital absolutely mobile * * * and you will have a régime of natural values."[1] In such a society, natural rates would be static rates; prices would never fluctuate; business forecasters would be useless. There would be no snake-like pictures of business fluctuations. One economic chart would be sufficient for all time, and all its lines would be "normal." The present would be a perfect guide to the future. Nobody could gain or lose by taking a chance; there would be no chances to take. Consequently, there would be nothing to raise prices above the level of cost, and the agents of production would divide all the products among them. There would be no uncertainties, therefore no risks, therefore no reward for risk-taking. In short, a profit economy could not exist in a static society. Such a society is a pure abstraction; in it there would be a complete relief from economic risks, but, alas, no human beings to enjoy the relief.

Still further to emphasize this point, let us distinguish sharply between business risks and gambling risks. Business risks, we have observed, are inherent in the nature of economic enterprise. They must be assumed by somebody. The farmer does not create the risks due to pests and the weather and shifting price-levels and foreign competition and uncertainties of transportation. Either the farmer himself assumes all these risks or, by means of various kinds of insurance, he shifts some of the risks to others. This is equally true of risks that are assumed by the prospector, the miner, the manufacturer, the merchant, the contractor, and the common carrier. Unless somebody runs these risks, mankind will have to go without bread and oil and tools and shoes and houses. In the construction of the Harvard Stadium, numerous risks were involved: the risk of injury to workmen, for example. This risk was part and parcel of the enterprise; somebody had to carry it. But nobody has to bet on the outcome of a Harvard-Yale game. In placing a bet, the gambler creates a risk; in placing an employers' liability policy, the insurance company takes over an exist-

[1] Clark, J. B. *The Distribution of Wealth*, p. 29. 1900.

ing risk. Gambling, in short, is taking chances on artificial risks. Such risks, at Monte Carlo or elsewhere, are not a necessary part of business enterprise. Economically, society does not care whether the race-track gambler bets on Fire Fly or on Spark Plug, or on neither. But from business risks there is no escape in any industrial order.

III

In any industrial order, therefore, success depends on the choice of risks. In the established order, profits are the results of risks wisely chosen. It is a matter of common observation that the makers of two competing products of nearly equal merit never make equal profits. Indeed, it often happens that one producer makes substantial profits, while the other makes no profits at all. The explanation is to be found chiefly in a comparison of the risks that are taken. Almost any successful company will serve as an illustration. If we sought an explanation for the profits of the Gillette Safety Razor Company, we should find it associated with the fact that this company, in creating a demand for its product, ran greater risks in advertising expenses than any other producer of safety razors. Let us take, as another example from actual business, two kinds of tooth paste. Let us call them Supreme and Superb. The laboratory tests revealed no reason why consumers should like one better than the other. As far as the merits of the products were concerned, the makers started with equal chances of profit. Neither had any discernible advantages over the other, except in fitness for choosing risks. Yet Superb turns out to be a best seller, yielding steady profits, while Supreme is a failure.

If a business man is too venturesome in taking risks, he loses; if he is not sufficiently venturesome, he loses. Between these two dangers, he must contrive to find a safe middle ground. He is like a baseball player who has reached first base. The closer he sticks to the base, the smaller risk he takes of being put out at first; but the smaller are his chances of reaching second. On the other hand, the farther off the base he plays, the greater risk he takes of being caught at first; but, if he is not caught, the greater are his chances of reaching second. The most successful base-runner, other things being equal, is the one who takes such risks that the pitcher can almost, but not quite, catch him every time he takes a lead for second. The most successful runner after profits, other things being equal, is the one who usually takes his position in the middle ground between security and excessive danger. But neither in business nor in baseball is any man infallible in his estimate of chances; if he never runs what turns out to be too great a risk—if he never gets caught off the base, or never takes a business chance that results in a loss—he is overcautious.

Every man who does any kind of business can at any time use greater caution: he can reduce some of his risks. He can do less advertising, cut down his stock, discontinue certain lines, and curtail his personnel department. He can insure against risks which he himself has previously borne. If he insures his factory against fire, he accepts the certain loss of the premium he pays, which otherwise might have been added to his profits instead of to his expenses, rather than run the risk of a greater loss from fire. In many other ways, he can narrow the scope of possible losses; but, in the process, he narrows the scope of possible gains. Indeed, as he reduces various risks, he increases the risk of

failing to make any profits at all. If he could transfer all risks, he would transfer all dangers of loss and all hopes of profit. Every year many men fail in business because the risks they take are too great; but every year there are other men who fail because the risks they take are too small.

From all this it must be clear that business men are constantly impelled, by the powerful urge of self-interest, to choose risks as wisely as possible. To assume that public officials, selected through political means rather than through the struggle for survival in actual business, and with no personal liability for the losses due to their mismanagement, would choose as wisely among business risks as the responsible heads of business in a profit economy, is to assume that human nature will suddenly become entirely different from what we know it to be.

IV

If any business man has followed us to this point, over ground so commonplace to him, he must have wondered why we have not mentioned the business risks that seem to him to transcend all others in importance, namely, the risks that are due to consumers' freedom of choice. We have left them to the end, for reasons that will soon appear.

Profits and losses, we have pointed out, are due mainly to uncertainties that are inherent in the nature of business, uncertainties that must be reckoned with in any industrial order. Chief among these uncertainties are those that are inherent in human nature. For the end of business enterprise is consumption. Production, therefore, looks for its regulator to distribution; and distribution in turn is regulated by the flow of money through consumers' markets. But this flow of money is directed and conditioned solely by the daily exercise of freedom of choice on the part of millions of consumers. What will these consumers want? How much will they buy at a given price? When will they buy? Where will they buy? Nobody can answer these questions in advance. Nobody can forecast the vagaries of human nature. This uncertainty concerning the ways in which buyers will make use of their freedom of choice is, indeed, chief among the risks of business—chief, therefore, among the causes of profit and loss.

This uncertainty is due largely to the three options enjoyed by the holder of money. He can decide "when" he will buy, "what" he will buy, and "where" he will buy. He has freedom of choice concerning the time of spending his money. He may withhold it from circulation as long as he pleases; at least he may withhold that part of his accumulation which he does not need to pay taxes and to keep him alive. This is a factor that money has introduced into business, and one that must be measured and reckoned with. Indeed, this time-factor every few years threatens to put an end to all transactions, and business is at its wit's end to find out how to get under way again.

The holder of money may choose among various kinds of goods. He may buy a coat of the latest style (new consumers' goods); or he may order a tractor (new capital goods); or he may invest in rare books (old consumers' goods); or, finally, he may buy a factory (old capital goods). He is not confined to the choices available in any one place. He may spend his money locally, nationally, or internationally, by mail, telegraph, or cable, wherever a system of money exchange is in working order. This geographical range of

choice of the holder of money gives rise to some of the chief risks of business.

Indeed, it is of the utmost consequence to the whole economic order in what directions the holders of money exercise this freedom of choice at any one time; for a marked change in the relative amounts of purchasing power devoted to the four classes of goods enumerated above, or a marked change in the relative amounts devoted to commodities and to services, causes changes in prices, in wages, in profits, and in volume of production, often with the familiar train of consequences suffered in periods of depression.

Because of these three choices as to time and goods and place, which go with money, the individual as a buyer is almost always in a strategic position. Ordinarily, therefore, the individual as a seller is the chief risk-bearer, for he has but one choice; namely, to sell for whatever price the buyer decides to pay for his goods, or to keep the goods. And to keep the goods very long is to court bankruptcy. There are fluctuations that affect the degree of the advantage of the buyer over the seller; but in all markets the advantage persists; and it persists by virtue of the three choices that go with the buyer's money. The chief risks of business, therefore, are due to the existence of consumers' freedom of choice in a money, as opposed to a barter, economy.

V

Consumers have virtually unlimited freedom of choice. That is merely a truism; but we can readily admit the truth of that bald statement without having any conception of its significance. So it may pay us to consider at some length what the free rein of the buyer's fancy means to business. Every day, in the United States, at least 60,000,000 people exercise this freedom. Every day they spend at least $100,000,000. Every day they buy the commodities and services of their choice, and no others. Do they choose to spend one-seventh of their income on motor cars and motor-car supplies? Very well, there is no power on earth to stop them. Do they refuse to buy certain magazines and certain styles of shoes and certain kinds of soap? Very well, they do exactly as they please. They flock to *Abie's Irish Rose* after all the theatrical managers have decided that they will not. They buy *Main Street* eagerly until April; then—presto!—they stop buying *Main Street*. Women wear furs all summer or refuse to wear them at all, as suits their fancy. They suddenly decide to bob their hair and dispense with veils. The helpless makers of hair-pins and veils would junk their machinery were it not for the hope, the not unreasonable hope, that before very long women will just as suddenly decide that they cannot possibly get along without hair-pins and veils. All consumers, men as well as women, are free today to choose as illogically, as unwisely, as capriciously, as extravagantly, as they please. And tomorrow is a new day: what they will demand tomorrow, nobody knows.

Consider what this means to business. It means that in producing machines, building railroads, organizing banks, stocking shops, and so forth, men must advance money with no assurance that consumers will enable them to get their money back. When a man starts to make a pair of shoes in January, he does not know whether any one will pay enough for that pair of shoes in April to cover the costs. If, however, every one is to be free in April to buy

shoes or not to buy, and to choose what kind of shoes he will buy, somebody must run the risk in January of advancing more money in production than he can ever get back from consumers. The tire manufacturer borrows money, builds a factory, installs machinery, organizes a sales force, lets advertising contracts, hires laborers, buys rubber and fabrics—all on the chance that, when the tires are ready for use, somebody will pay enough for them to take care of all these advance payments. But will that somebody come forward at just the right time and do what is expected of him? Nobody in the world is wise enough to say. The production of tires must go forward, if at all, on mere estimates of future demand. What these estimates are, what stocks are produced, what they cost, the buyer does not know or care.

The typical retail dealer, too, must take his chances. As a rule, he must put his own money or borrowed money into stocks—fur coats for example. Then, along with other risks, he must run the risk of a general slump in prices, or a warm season and a weak market for fur coats, or both. But if he has paid for the coats, it does not matter to the coatmakers how mistaken his judgment of the market turns out to be. The risk is all assumed by the dealer who advances money and holds the coats; and the risk is due to the fact that consumers are at all times at perfect liberty not to buy.

Now nobody can long run these risks of loss unless there are chances of profit. This brings us to another fundamental fact that is overlooked in our current indictments of the prevailing profit economy: since the individual's option to buy or not to buy is the chief cause of profit and loss, there is no possibility of eliminating profit and loss without depriving the individual consumer of freedom of choice.

VI

The usual analysis of the wastes involved in the competitive pursuit of profits does not dig deep enough to uncover this fundamental fact. "The chief wastes dealt with by socialists," says the Secretary of the Intercollegiate Socialist Society, "are generally those connected with the distribution of commodities. Competition demands the expenditure of enormous sums in securing a market. * * * In the printing trades, a considerable portion of workers, ranking in the census as engaged in production, are busy at printing 'not books, or newspapers, or magazines, but advertising matter, competitive price-lists, wrappers, trade-labels, billheads, account books, posters, and so forth, which are merely called into existence by the struggle of various competitive sellers to reach the consumer.'[2] and which could largely be eliminated under a cooperative system of industry. * * * The reader must pay the price."[3] Such indictments of the capitalist system seem superficial. They go far enough to uncover competition for the consumer's dollar as a cause of wastes, but they do not go far enough to uncover the consumer's freedom of choice as the cause of competition. As a matter of fact, this rivalry among profit-seekers in the race for the consumer's dollar is called forth because of the consumer's three options in the use of his dollar.

There are many ways in which these so-called wastes could be reduced; but there is only one way in which they

[2] Wells, and others. *Socialism and the Great State*, p. 82. 1912.

[3] Laidler, Harry W. *Socialism in Thought and Action*, pp. 18-20. New York, 1921.

could be "largely eliminated;" namely, by the elimination of the consumer's freedom of choice. Admittedly, the cost of distribution of regulation army supplies is small. No efforts are wasted in persuading the individual soldier to choose this style of overcoat or that kind of breakfast food, for he has no choice. Provided we were all willing, under a system of communism, to accept whatever the state produced and allotted to us, or provided we were willing and able, under a price and profit system, to buy at government-fixed prices whatever the state produced—an obvious impossibility—we could do away with most of the present vast costs of distribution.

We must not overlook the fact, however, that these efforts of competitors to sell their goods are properly called "wastes" only if the privilege of choosing among competing products, and the improvement in the products themselves that results from this competition, are not worth paying for. How much they are worth is a question we cannot now discuss. Here we seek only to emphasize the fact that the consumer's freedom of choice, which is the chief business risk and therefore the chief cause of business profits and losses, is also the chief cause of the high cost of distribution.

Under the competitive system, we are told, consumers must pay for all the costly advertising. In such general terms, this is merely a truism. All human beings are consumers; there is nobody else to pay the costs of advertising or any other costs. But this charge against a profit economy, though in general valid, often involves the unwarranted assumption that the individual producer or distributer can incur whatever advertising costs he pleases, add these costs to the price of his product, and collect them from buyers who have no option in the matter. Thus the business man's inescapable risk is ignored, all because the crux of the situation—the fact that the consumers hold all the options—is not taken into account. The consumers themselves decide, in the process of exercising their options, what advertising they will pay for. When they refuse to pay, those who have advanced the money are not reimbursed. And consumers are constantly making the refusal. Every year they decide that hundreds of thousands of concerns shall not collect enough in sales to cover the money they have advanced in attempts to influence choice. The consumers are the court of last resort: there is no appeal from their decision.

Communism abolishes individual profit and loss and the "wastes" of distribution under a competitive system; but it also abolishes individual freedom of choice. The communistic state decides what is good for everybody and undertakes to supply each citizen with the "standard" requirements. There is no risk due to changing wants; for the individual gets what is allotted to him, whether he wants it or not. In like manner, the directors of the New York Foundling Society decide in December on the names, lodgings, occupations, and so forth, that are to be assigned to all the abandoned children that will be found on doorsteps during the following year. The children are not consulted. If all members of society would turn themselves over to the care of a board of directors, and accept whatever was allotted to them, it would be possible to organize industry on some other than a profit and loss basis.

This, then, is the gist of the matter: Somebody must determine what goods are to be produced. The decision must rest either with the government or with

consumers. It is impossible for any government to perform this service with satisfaction to consumers. Therefore consumers must decide. The only way they can make their decisions effective is through exercising their freedom of choice in the ordinary course of marketing. This freedom of choice constitutes the chief risk of business, and gives rise inevitably to profits and losses.[4]

[4] That this discussion of the functions of prices and profits is far from adequate the authors are well aware. They have treated certain aspects of the subject at greater length in the January, 1925 number of the *Yale Review*, and at still greater length in the forthcoming volume on *Profits* in the Pollak Foundation for Economic Research Series. In another volume of that series, *Money*, they have discussed in detail the points which are merely enumerated in Section IV, above.

AN ESTIMATE OF THE VOLUME OF RETAIL BUSINESS IN THE UNITED STATES

By PAUL H. NYSTROM

IT is a remarkable fact that the United States Government accumulates censuses and statistics on almost every conceivable subject except the business of distribution of goods. The decennial census, for example, shows the occupations of the people and, consequently, the number who are engaged in trade; but, other than this, it offers no data on retailing and wholesaling.

That there is a need for authentic statistics on distribution (other than the mere numbers engaged in the business) is clear, for example, when one notes the constant criticism, particularly of retailing, not only from producers but from consumers as well. Without even the possibility of specific knowledge of the subject, many people insist that there are entirely too many retailers. Without knowing anything about the volume of business which passes through the retail trade, or the costs of retailing, many do not hesitate to assert that retailers are getting too much profit. Until we have statistics on the subject, such statements are merely expressions of opinions as likely to be wrong as right.

Retailers themselves need accurate figures concerning the general conditions of retail business, particularly in order to check their individual operations against the general trends.

In this article no substitute for authentic figures such as the government should provide is offered, but, in the entire absence of anything authoritative, the effort has been made to present such rough estimates as seem possible, with the understanding that they are but estimates and are certain to contain inaccuracies. Despite their obvious shortcomings, these figures may serve some temporary purpose until the Federal Government takes up this branch of statistical information. In passing, it may be noted that at the time of this writing, December 1, 1924, there is considerable active interest, even definite plans, directed towards securing a census of trade. Before many more years go by, we shall probably have some definite figures.

I

As indicated above, the federal census, taken every 10 years, presents figures showing the number of people engaged in the retail business; but the census classification of occupations, in regard to retailing, is still so inadequately worked out that even these figures are not as helpful as they might be. A few illustrations will suffice to show this:

In 1920, according to this census of occupations, there were 1,328,275 retail dealers distributed among 47 definitely named classes; others are generally grouped under "Miscellaneous." In addition to the dealers, there were 413,918 clerks in stores and 1,177,494 salesmen and saleswomen; 125,007 laborers, operators, and helpers in stores; 26,437 floor walkers, foremen, and overseers; 170,235 delivery men; 8,853 decorators, drapers, and window dressers; 113,022 messengers, bundle and office boys and girls, probably half

of whom were employed in retail stores. The total of these groups amounts to 3,363,241.

The modern store, however, employs many other groups of people not included in the classifications named in the preceding paragraph. No separate classifications are made by the census for persons in the retail trade who are accountants, stenographers, advertising writers, elevator operators, restaurant and lunchroom employees, janitors and cleaners, launderers and laundresses, barbers, hair-dressers and manicures, doctors, nurses, and welfare workers, detectives and competitive shoppers. There is not even an enumeration of retail store buyers as such. Then there are the numerous classes of employees engaged in the workrooms and alteration departments, which form a part of nearly all large retail establishments selling apparel of all kinds, as well as jewelers, watch repairers, engravers, mechanics, painters, paper-hangers, cigar makers, cobblers, bootblacks, upholsterers, and so forth. Certainly there are at least 100,000 employees of retail stores of these classifications making the total engaged in the retail trade not less than 3,450,000.

Furthermore, there are a number of border-line occupations that might perhaps be counted as retailing. There are nearly 25,000 bakers in the country who sell at retail, but the census counts bakers as manufacturers. Are the 28,000 newsboys retailers? Are the 25,000 undertakers retail dealers? Are movies and theaters retail institutions? Should barber-shops be counted as retail places of business? What about the 150,000-odd real estate offices? And so on.

I shall not attempt to answer these questions. The reader may use his own judgment, but even with the doubtful classifications omitted, it will be clear that the total number of people engaged in the retail trade in 1920 was more than 3,450,000.

A comparison of the number of people engaged in retailing with the number in other leading occupations will show the relative importance of retailing to our national economic life. The figures for 1920 were as follows:

Manufacturing	12,818,524
Agriculture	10,953,158
Retailing	3,450,000
Transportation	3,063,582
Professional	2,143,889
Mining	1,090,223
Public Service	770,460

It will be seen from the above that retailing ranks third in order of importance from the standpoint of the number of persons employed.

II

Passing now from known facts to estimates, let us address ourselves to the question as to what the annual retail volume of retail trade is. The estimate offered here is that the total volume for the year 1923 was approximately $35,000,000,000, or about $320 per capita and about $1,500 per family.

The methods of arriving at this estimate, if not adequate, are at least interesting as an illustration of the statistician's art of making the most of limited possibilities.[1]

[1] Two of the methods used here have already been described by Lawrence B. Mann, of the Federal Reserve System at Washington, whose article on the subject, "The Importance of Retail Trade in the U. S.," appeared in the *American Economic Review*, December, 1923. A third method used by Mr. Mann, that is, estimating the total retail trade by the income tax returns of corporations engaged in the retail business, has not been used by the present writer and is therefore not listed in this article.

One method by which an estimate of the total volume of retail trade can be secured is by taking the total of manufactured goods and other products ready for final consumption, adding to this the total imports of consumers' goods for the same year and subtracting the exports of similar goods for the same period. Disregarding the possible carry-over from the preceding year and similarly the carry-over into the next year, the result shows what is apparently left for consumption within the country and which, therefore, must pass through the hands of retail dealers on the way to consumers. Since the figures representing these amounts are expressed in terms of producers', importers', and exporters' prices, an additional percentage must be added to cover the costs of distribution through wholesale and retail channels. Using this method, Lawrence B. Mann estimates that, for 1919, the total retail trade was nearly $37,500,000,000. The writer, using the same methods, arrives at a figure of approximately 34 billions. This difference is not surprising when one considers how important a part personal opinion plays in setting up such figures. At almost every step one must determine whether the volume manufactured or imported is distributed through the retail trade or not; and often estimates must be made, as in the case of fabrics, on what part is sold to retailers for resale to consumers and what part is sold for further manufacture into garments. The totals for 1923 are probably higher than for 1919, so that the writer accepts tentatively the sum of 35 billions as the probable amount passing through the retail trade.

Another method used by Mr. Mann takes the average sales per person engaged in the retail business as determined in certain lines of business and certain localities and assumes that this average amount of business done per capita holds good for the entire country. From data gathered by the Harvard Bureau of Business Research and substantiated by the observation of the present writer, it is roughly estimated that the average sales per person employed in retail stores is not far from $10,000 a year. As the number of people employed in the retail business in 1920 was about 3,450,000, the total retail trade would, therefore, be about $34,500,000,000. Assuming some increase for 1923 in the number of people employed, the total volume would probably be somewhat higher, that is somewhat nearer $35,000,000,000.

One state only in the entire country attempts an enumeration of the actual number of dealers and at the same time compiles the volume of business done. This state is Pennsylvania. Under a system authorized by a law passed in 1899, every retail institution in the state must secure a license and pay a license fee dependent upon the volume of business done.

The totals reported in Pennsylvania for the years 1920 to 1923 were as follows:

Year	Per Capita Purchases at Retail	Number of Retailers	Volume of Retail Business
1920	$231.98	138,178	$2,022,902,290
1921	286.27	149,414	2,496,236,250
1922	257.35	154,003	2,244,092,224
1923	274.39	156,434	2,392,694,915

Applying the consumer "per capita purchases" to the total population of the United States taken as nearly 110,000,000, the total value of retail trade in the country would amount to about $30,000,000,000 for 1923.

On examination of the Pennsylvania figures, however, it seems possible that the per capita purchases may be too low. First: it seems likely that there may

be some error in the number of retail shops in the state, for the changes from year to year seem too great to be true. It seems very doubtful that the number of retailers could have grown from 138,000 in 1920 to 156,000 in 1923, a gain in two years of about 13%. There is nothing to indicate any similar gain in the same period in the number of retailers in other sections of the country, nor is there any discernible reason for such an increase in Pennsylvania. Following the peak of business inflation in 1920, it is fairly certain that the number of retail businesses throughout the country did not show much increase and that in many sections it actually decreased. The discrepancy indicates, if anything, that the law was more fully enforced in 1922 and 1923 than in 1920.[2]

Second: it is not believed that the licensing system is a certain means of getting accurate statements of the volume of business done. Since the license fee is dependent upon the volume reported, there must be some temptation to understate, but, entirely aside from such a temptation, Pennsylvania retailers are probably like retailers elsewhere, many of whom do not know how much business they do. Accurate records, even of the volume of sales, are not kept by all retail dealers. According to the observation of the writer, a considerable proportion, particularly of small dealers, are not able accurately to give such information.

There is a third possibility, and that is that the Pennsylvania retail trade is actually less per capita than the trade for the entire country. The retail trade of the coal mining districts and certain industrial sections of the state, either because of low wage rates or irregular employment, probably suffers in comparison with the average retail trade for the country. Certain agricultural sections of Pennsylvania are also more nearly self-sufficient, so far as the production of food is concerned, than any other part of the country. Finally, mail-order house executives have repeatedly stated that the state of Pennsylvania gives more mail-order business to the big Chicago and New York mail-order houses than any other state in the union. This, if true, would also tend to depress somewhat the total figure of retail trade in the state.

It is the opinion of the writer, therefore, that something must be added to the total volume of retail trade in Pennsylvania, as indicated by the state report, and it does not seem that the results found by the first two methods—that is, $35,000,000,000—would be modified by the method just referred to.

III

Still another method of approximating the volume of retail business is to use an average American family budget and multiply this by the total number of families. A most comprehensive study of family budgets was made by the United States Department of Labor in 1918 and 1919.[3]

The budgets of 12,096 wage-earning families from 92 localities were collected. The total average expenditures

[2] It is interesting to note that the Pennsylvania statistics for 1920 show 138,178 retail concerns, while the United States census for the state gave only 114,279 retail dealers. This discrepancy cannot be explained except, in small part, by the ownership of several stores by the same dealers. The U. S. census is probably more inaccurate than the Pennsylvania figures.

[3] *Bulletin of the United States Bureau of Labor Statistics*, No. 357 "Cost of Living in the United States."

were $1,434.94 per family for one year. It was found that the average annual income for this group was $1,513.29. No comprehensive study has ever been made in this country to determine the average incomes of more general sections of the American public. There have been a number of studies of families known to have subnormal incomes and also other studies of the incomes and expenditures of the purely laboring classes. The study referred to here, made in 1918-1919, is undoubtedly the most thorough and accurate ever attempted.

A recent publication issued by the Domestic Distribution Department of the Chamber of Commerce of the United States entitled, "Population's Purchasing Power," attempts in an interesting way to show the retail trade possibilities of each of 31 out of the 92 localities studied by the United States Department of Labor by taking the average per capita expenditures found for working families and multiplying by the total number of people in each place, and similarly taking the average per capita expenditures of working families of all 92 localities and multiplying by the total number of American people and thereby securing an estimate of the total retail trade amounting to nearly 22 billions ($21,947,638,923).

Obviously, the income and expenditures of a worker's family do not accurately reflect an average of income and expenditure for all families. In the selection of families whose incomes were to be studied, the United States Department of Labor excluded all in which the head of the family was in business for himself and also all higher salaried workers. There were other minor restrictions such as limiting this study of families to those with lower incomes, but, on the other hand, all slum and charity families were excluded. The report does not show to what extent the families studied represented unskilled, semiskilled, or skilled workers. Naturally, none of the professions were represented. Public service of all kinds was excluded. Farmers of all classes, making up nearly a fourth of all the families in this country and whose gross average incomes are surely at least $2,000 per year, were left out. Finally, it should be borne in mind that the United States Department of Labor was interested primarily in finding the costs of living for wage-earning families in typical American cities. It did not concern itself with the possible total expenditure of all classes of people.

It may be safely assumed that the average incomes and expenditures of the people not included in this study were higher than the average incomes of wage-earning families. How much higher is entirely a matter of guesswork. Probably the average income for all families in this country is at present not far from $2,000 a year.

The percentages of distribution of income determined by the Department of Labor for the wage-earning group may, perhaps, be taken as fairly typical for all families excepting that, in accordance with Engel's laws, as incomes go higher the percentage expended for food is reduced, while the percentages for miscellaneous items and savings go up.

Table I, on page 55, presents the distribution of expenses by general classes of goods, as found by the Department of Labor for wage-earning families, and an estimate or approximation of the probable distribution of the present average American family income.

Of the items named, part pass

TABLE I. FAMILY EXPENDITURES

Item	U. S. Department of Labor—1919		Estimated American Family Income	
	Percentage of Total	Amount	Percentage of Total	Amount
Food	38.2	$ 548.51	33.0	$ 660.00
Clothing	16.6	237.60	16.5	330.00
Shelter	13.0	186.55	15.5	310.00
Fuel and Light	5.2	74.28	5.0	100.00
Furniture and House Furnishings	5.1	73.22	5.0	100.00
Miscellaneous and Savings	21.3	306.11	25.0	500.00
Total	100.0*	$1,434.94*	100.0	$2,000.00

* These figures are quoted directly from the report of the United States Department of Labor. They do not balance exactly.

through retailers and part do not. The entire outlay for shelter, that is, rent, does not; possibly half of fuel and light and about a third of the miscellaneous items do not pass through the retail trade. The remainder, $1,480, is an estimate of the total amount that does pass through retail stores, which closely approximates the estimate of $1,500 made earlier in the article and obtained by other methods. This amount multiplied by the total number of American families, about 24,000,000, gives a total of approximately $35,000,000,000.

IV

As a further check on this estimate of the total retail business in 1923, one may use the carefully drawn up estimates of the total national income prepared by the National Bureau of Economic Research. In "Income of the United States," the report of the Bureau, on page 13, the total national income for 1919, the last year of the period covered by this study, is given as $66,000,000,000. This is the best study of this difficult and intricate matter that has been attempted. Its results, while only estimates and perhaps subject to correction, are probably not far from right. Unfortunately, the Bureau has not yet published estimates for the years since 1919, but it may be safely assumed that the total national income for 1923, when published, will hardly be less than $70,000,000,000.

Using $70, 000,000,000 as a basis to work from, it may be possible to make an estimate of the total volume of retail trade for 1923 by deducting from the total national income those items which do not pass through the retail business. Among such items are savings, taxes, rents, production of goods consumed at home, payment for professional and personal service and so on. What follows is an analysis of such items with estimates of the volume of each.

The most important item of the national income which does not pass through retailers is savings. According to David Friday in the *New Republic,* February 15, 1924, this amounted to not less than $12,000,000,000 in 1923. These savings took the form of bond deposits, purchases and payments on real estate and other property, investments and speculations in stocks and bonds, private loans, insurance, reserves retained in business corporations, and so on.

It has been estimated by David Friday and others that total taxes for the past year were not less than $7,500,000,000. But of this amount all indirect taxes, licenses, fees, and so on, were

probably passed on into the price of goods and, as such, were paid before income was computed and should not be deducted from final savings. Probably $2,500,000,000 should thus be deducted from total taxes, leaving $5,000,000,000 to be paid out of the national income.

About 13,000,000 families, out of a total of about 24,000,000 in the country, rent their homes. A wide inquiry made on the average rentals paid, including all classes of people in all parts of the country, leads to the conclusion that $25 per month is probably not far from the average amount paid. Estimating that the average rental paid amounts to about $300 a year, there should be deducted the sum of $3,900,000,000 for rentals that obviously do not pass through the retail trade.

The National Bureau of Economic Research included as income, and quite rightly, all goods produced and consumed at home, as well as all income from the sale of goods directly from producers to consumers. Under this heading there are, therefore, large items for food, such as vegetables, fruits, and dairy produce, as well as clothing and furnishings which were credited to income, but which do not pass through the retail trade. It is estimated that about 10%, or $7,000,000,000 of the national income, is expended in this way.

From information given in Crain's *Market Data Book,* for 1923, rough estimates have been prepared as follows: Professional services of doctors, dentists, nurses, midwives, and hospitals cost $1,775,000,000. Burials cost at least $70,000,000 more. Legal services for private individuals, not charged to business and, therefore, paid for out of the national income, take at least $250,000,000. Hotels and restaurants collect $1,250,000,000 and laundries $275,000,000. Telephone toll charges cost half a billion dollars annually, of which $250,000,000 may probably be deducted from the national income. Gas and electricity for private and domestic use each probably costs $400,000,000, or a total for the two of $800,000,000. Churches and foreign missions collected $368,000,000 in 1920, and certainly no less in 1923. Charities amount to at least $150,000,000. Theaters, movies, amusements, club and society dues, according to the Bureau of Internal Revenue for 1921, show a return of $950,000,000, which may be assumed to be no less for 1923. Personal services, including the earnings of 225,000 barbers, boot-blacks, hairdressers, manicures, probably averaging $1,000 a year each, and 1,270,000 servants of all kinds at $500 a year, make a total of $860,000,000.

The total of items listed above to be deducted from the national income is $34,873,000,000. To this amount should be added a figure to cover miscellaneous outlays not covered in the items given above but which are not expended through retail stores. Among such, for which no estimates are available, are railway and steamer fares for pleasure trips, and for all purposes in which the expenses are not charged to any business, also street-car and bus fares, and purchases from all vendors not usually classed as retailers. These items, if we could estimate them, would probably bring the total somewhat above $35,000,000,000.

If the total income in 1923 was, as estimated above, $70,000,000,000, then, by using this method, it will be seen that about half of the national income passes through retail stores. In an estimate made of the total retail trade in Germany in 1913, according to

Dr. Julius Hirsch, it is interesting to note that it was found that the retail trade amounted to about half of the total German national income at that time. Perhaps this proportion of the national income may be taken as a fair estimate of the amount of retail trade at any time.

There are certainly inaccuracies in all of these methods and in the figures to which they are applied, but the fact that by employment of five different methods, four of them yield a total about 35 billions is at least significant. An application of the Pennsylvania figures to the nation at large shows, as we have seen, a total of at least a seventh less, but the obvious criticisms of that method indicate that an estimate of the total volume for the entire country, based on these figures, would be too small, and the method, therefore, tends to support faith in the higher estimate obtained by the other methods.

V

A distribution of the total retail trade by the principal lines of merchandise can be worked out from the foregoing by using the percentages of income distributed by lines in the average family budget. To these, certain additions can be made from the statistics available from the United States Bureau of Internal Revenue.

Assuming that $2,000 per annum represents the average income of the 24,000,000 American families, the total family incomes would, therefore, be about $48,000,000,000. The difference between this amount and the total of $70,000,000,000 estimated as the national income represents the earnings of businesses of various kinds not paid out in any form to individuals, but saved or reinvested, or paid out in taxes.

Table 2 presents the approximations of the volume of several items sold by retailers.

TABLE 2. VOLUME OF CERTAIN ITEMS OF MERCHANDISE DISTRIBUTED BY RETAILERS

Item	Billions of Dollars
Food	
Groceries and meats, and so forth—including only part sold by retailers. Estimated by taking 33% of $48,000,000,000	15.8
Clothing	
Men's, women's and children's—including both ready-to-wear and piece goods, but not value of home dressmaking; footwear, underwear, hats, and so forth, included. Estimated by taking 16½% of $48,000,000,000	7.9
Furniture and House Furnishings	
Including floor coverings, draperies, curtains, and so forth. Estimated by taking 5% of $48,000,000,000	2.4
Automobiles, accessories, oil, gas, and so forth. For pleasure purposes only	3.0
Tobacco Products*	1.7
Beverages (non-alcoholic), Ice-Cream, and so forth*	.8
Candy and Chewing Gum	.8
Jewelry, Watches, and so forth*	.49
Pianos, Organs, and so forth*	.46
Fur Articles*	.18
Perfumes and Cosmetics*	.15
Toilet Soaps, and so forth*	.15
Miscellaneous	1.17
Total	35.00

*Expenditures during fiscal year ending June 30, 1921, reported by Babson from the United States Bureau of Internal Revenue. There is some duplication between the estimate for food and the totals for ice-cream and candy.

VI

The amount of business done by various types of retail institutions can also be estimated roughly. For the purposes of this article the various types may be classified as follows: Mail-order houses, department stores, commissary or company stores, chain stores, and specialty stores.

According to Boyd's City Dispatch, a concern specializing in the preparation of mailing lists, there are 1,225

mail-order houses in this country doing a general mail-order business running over $100,000 a year each. When speaking of the retail mail-order business, it is customary to think of Sears, Roebuck and Company, Montgomery Ward and Company, National Cloak and Suit Company, and perhaps three or four others. It will be seen from these figures that there are a great many other mail-order houses. The three concerns just named did volumes in 1923, respectively, as follows:

Sears, Roebuck and Company	$215,540,604
Montgomery Ward and Company	134,644,436
National Cloak and Suit Company	52,399,783

Actually these three concerns probably do only about a fourth or at most a third of the total retail mail-order business. It is estimated that the total for the country during 1923 was nearly $1,500,000,000, or about 4% of the entire retail trade of the country.

There are about 8,000 commissary or company-owned stores located in mining, lumbering, and industrial construction centers, doing a total volume of $1,300,000,000, or a little less than 4% of the total retail trade.

It is difficult to set an estimate of the volume of the department stores of the country, for the reason that it is difficult to define a department store. According to the census of 1920, there were over 11,000 department store dealers. Any examination by actual count in any section of the country fails to reveal as many department stores as there were dealers reported by the census unless one includes many small dry-goods and general merchandise stores. Perhaps a better idea of the number can be obtained by reference to Boyd's *City Dispatch*. This concern offers the names and addresses of 6,230 department stores, 3,700 of which do a business of over $50,000 and 445 of which do $1,000,000 or more a year.

Taking the term "department store" to mean only the larger institutions doing $50,000 a year and up, the total volume of these is estimated to be about $5,500,000,000, or about 16% of the total retail trade.

In connection with figures on department stores, it should be borne in mind that these stores have in many, if not most, cases, grown out of dry-goods stores, and that probably more than half of women's and children's apparel, much more than half of the yard or piece goods, and a large proportion of toilet goods are sold through department stores. Probably more than 40% of all lines included under the term "dry-goods" is sold at present in department stores.

There are at present over 4,000 chain-store organizations in this country with about 65,000 unit stores, representing practically all lines sold at retail.[4] Chain stores, it is estimated, did a volume of $2,800,000,000 in 1923, or about 8% of the total retail trade. The proportions are much higher than the average, however, in such lines as groceries, drugs, notions, and tobaccos, in which the chains are strongest.

Adding the volumes of these classes of retailers together, we find that they do a total of $11,100,000,000, or 31.7% of the total retail trade. There remains, then, nearly $24,000,000,000, or 68.3% of the total, which may be presumed to be the amount distributed through the regular, old-time retail shops, and general merchandise stores.

In conclusion, readers of this article may find much to disagree with. There

[4] *See* Nyserom, Paul H., *Economics of Retailing*, chap. xvi, "Chain Store Systems."

may be items for which estimates are far too high or too low. To forestall such criticism, the writer wishes to state that he presents this article as an estimate drawn up as carefully as possible, but necessarily inadequate, in the hope that it will attract the attention of those who may be able to correct such discrepancies and errors as may occur therein. The writer has made use of the most authoritative figures available and known to him. In the interest of better estimates of retail trade, both in total and by lines, criticism is invited and desired, particularly if accompanied by specific facts.

AMERICAN INVESTMENT TRUSTS

By RUSSELL D. KILBORNE

AN enlarged interest in the investment trust was distinctly manifested in the United States during the year 1924, due in part to the formation of such trusts in the United States—at least six offered their securities for sale to American investors in that year[1]—and in part to the great success achieved by such trusts in Great Britain. A third contributing factor is the changed financial position of the United States. Ours is now a creditor nation. We are no longer dependent upon Europe for capital to insure our industrial development but, on the contrary, we are now exporting considerable capital to Europe and other areas to be used either by governments or by business enterprises. The most important item in our invisible balance of trade is the one representing loan transactions; for example, in 1922 we bought foreign securities having a value of $963,000,000.[2] While this movement of capital from our shores will doubtless continue to increase and at an accelerated rate, as yet the small investor looks with distrust upon foreign securities. The investment trust may be instrumental in overcoming this distrust, thereby assisting in the process of transferring capital abroad and consequently helping our foreign trade.

The result of this increased interest in the investment trust has been not only the formation of these trusts—in this respect their formation has been both cause and effect—but also the sale of a large number of their securities. According to the Standard Daily Trade Service one investment house sold almost 1,000,000 bankers' shares in three investment trusts.[3] Moreover, the number of articles on the investment trust which have appeared in both scientific and popular periodicals in the past year show the interest in this financial device.[4] It may be well, therefore, to define the investment trust, to trace briefly its history, and then to center our attention upon some of the investment trusts which have been formed in the United States.

I. Definition of an Investment Trust

An investment trust is a financial institution set up for the purpose of making it possible for the investor to obtain a high degree of safety in his investment by buying securities of the trust, which securities in turn are backed by various other securities—stocks and bonds. The investment trust is to be differentiated from the holding company. The holding company has come

[1] These were United American Electric Companies, United American Chain Stores, United American Railways, The American Trustee Share Corporation, The United Bankers Oil Company, and the Massachusetts Investors Trust. The International Securities Trust of America and the Bond Investment Trust are two other investment trusts formed in the United States.

[2] U. S. Department of Commerce, Trade Information Bulletin No. 144: *The Balance of International Payments in the United States in 1922*, p. 4.

[3] Special Supplement, August 12, 1924.

[4] The following may be mentioned: "Some Management Problems of Investment Trusts," HARVARD BUSINESS REVIEW, Vol. 2, No. 3; "The Ideal Investment Trust," *Financial World*, August 16, 1924; "'The Investment Trust' Comes This Way," *Literary Digest*, August 30, 1922; and the Special Supplement referred to in footnote 3.

into existence almost always for the purpose of acquiring control over a number of smaller concerns with the aim of controlling the policies of these concerns, while the investment trust purchases securities for use as collateral for its own issues. Moreover, the securities issued by investment trusts are to be differentiated from collateral trust bonds, because the issuance of the latter is but an incident in the general conduct of a business such as a public utility or steam railroad, while the issuance of securities by an investment trust constitutes the essential business of the investment trust. The management of an investment trust company ordinarily takes no part in the management of the enterprises whose securities are used as collateral.

Nor is the form of organization the important thing in the matter of an investment trust. Economic service does not necessarily have any connection with legal form of organization. Provided the business has as its chief function the issuing of securities based upon holdings of various kinds of securities so as to afford the investor a high degree of safety through diversification, it may be well to call the business an investment trust whether it be organized as a corporation, a Massachusetts trust, or otherwise. The same principle applies to the securities issued by an investment trust. Whether such securities be trust certificates, secured gold bonds, or bankers' shares, is immaterial, provided the business has for its main purpose the issuance of securities upon the basis of collateral of other securities.

II. The History of the Investment Trust

The first investment trust seems to have been founded in Belgium in 1822.[5] It was not, however, until 1860 that an investment trust was set up in Scotland, at a time when British bonds were paying 3% interest while foreign government and railroad bonds were paying 5% or 6%.[6] The higher interest naturally appealed to Scotch investors, but at the same time they did not wish to assume the risk of losing their entire capital by placing all of it in one foreign investment. They, therefore, organized an investment trust so as to scatter the risk. The legal form of this institution was the Old English trust. A few people experienced because of their management of large trust estates were appointed trustees,[7] and capital was entrusted to them to acquire securities. The individual members of the trust then received shares in the trust in proportion to the capital invested. If the capital were oversubscribed (as happened later), there might be created a second trust, a third, and perhaps a fourth.[8] In such cases the second, third, and fourth trusts had the same management and by-laws as the first. But in each case the management followed the principle of diversifying its securities, the first one formed in Scotland possessing 18 different government obligations.[9] By 1886, only 12 such trusts with a capital of £6,500,000 had their securities listed on the London Exchange, although there were doubtless more in operation.[10] But the

[5] 7 *Federal Reserve Bulletin*, 64. This study is an interesting account of the development of the investment trust in various countries in Europe.

[6] 6 *Federal Reserve Bulletin*, 1168.

[7] HARVARD BUSINESS REVIEW, Vol. 2, No. 3, p. 301.

[8] 6 *Federal Reserve Bulletin*, 1169. "The Investment Trust," a pamphlet published by Bull and Rockwell Company of New York, lists three such trusts under the name of the Edinburgh Investment Trusts.

[9] 6 *Federal Reserve Bulletin*, 1169.

[10] *Ibid.*, 1170.

movement grew rapidly, so that at the present time there are more than 150 such trusts whose securities are listed either in London or in various Scotch cities.[11]

Many of these investment trusts have paid dividends of from 20% to 30% a year on their common shares and a bonus from time to time.[12] Some of these trusts reduced their dividends during the period of the World War, although many of them continued the old rate or even increased it. Since the war, however, the amount of British capital seeking investment abroad has probably decreased because of heavy taxes; and this in turn has led some of the British trusts to endeavor to push the sale of British securities abroad.[13]

It must not be understood that all British investment trusts have been highly successful. One formed in 1909 invested most of its funds in securities issued by Russian corporations with results that have been far from good.[14] This case simply illustrates the necessity of diversifying investments widely.

What has been responsible for the success of these British investment trusts? First, favorable articles of incorporation. The directors are given very wide powers. They may sell securities already purchased to take a profit or to avoid losses. There are no restrictions imposed upon the directors as regards the kind of security to be purchased, with the exception of buying a security which imposes an unlimited liability upon the investment trust. The only restriction imposed upon them is that ordinarily not more than 10% of the capital of the trust may be invested in any one security. This wise restriction has led to a great diversification of investments—the thing without which the investment trust could not succeed. The following approximate figures show the number of different securities held by some of the British investment trusts:[15]

Company	Number of Securities
American and General	260
United States and General	200
First Mercantile	500
London	500
First Scottish	300

A second cause for the success of the British investment trust has been good management. Good management, in turn, has been shown in a judicious selection of securities, keeping down the expenses of administration—a competent writer states that it ought not to exceed one-half of 1% of the invested capital—and, above all else, in a far-sighted dividend policy which sets up reserves to take care of losses.[16]

When we look at Continental Europe we find that the investment trust has not been so successful as it has been in Great Britain. This lack of success has been due largely to poor management. In many instances these trusts have been more in the nature of financial trusts than investment trusts. In other words, their function has been to promote enterprises rather than to purchase securities of seasoned enterprises. Moreover, in many cases these trusts have been formed as an appendage to a large bank with disastrous results.[17] Then, too, some of them have been formed for a purpose which comes close to being fraudulent. For example, the Zentral-

[11] *Ibid.*, 1170: "The Investment Trust."

[12] See *The Investment Trust* for a record of the dividends of some of these companies.

[13] *Federal Reserve Bulletin*, Vol. VI, p. 1173.

[14] *Idem.*

[15] Information supplied by Bull and Rockwell Company.

[16] HARVARD BUSINESS REVIEW, Vol. 2, No. 3, p. 298.

[17] *Federal Reserve Bulletin*, Vol. VII, pp. 64-67.

non-resident decedent[25] and the fact that stockholders or directors may hold

bankers' shares issued by the United

bank in Berne, Switzerland, formed two investment trusts in 1906 and 1907. Soon after their formation the directors of the Zentralbank unloaded upon these two trusts at high prices securities which they wanted to dispose of, with disastrous results to the investment trusts.[18] On the whole, therefore, it is not incorrect to say that the investment trust because of poor management has not been so successful in Continental Europe as it has been in Great Britain.

III. Form of Investment Trust Organization in the United States

The International Securities Trust of America was, so far as the writer has been able to discover, the first investment trust formed in the United States.[19] This trust was formed in April of 1921. The Bond Investment Trust, the Massachusetts Investors Trust, the American Trust Share Corporation, United Bankers' Oil Company, United American Chain Stores, Incorporated, United American Railways, Incorporated, and United American Electric Companies were formed in 1923 or 1924.[20]

The International Securities Trust of America, the Bond Investment Trust and the Massachusetts Investors Trust are organized as Massachusetts trusts, sometimes called "voluntary associations." [21] The management of these trusts is placed in the hands of trustees, not less than three nor more than seventeen in the case of the International Securities Trust of America [22] and not less than three nor more than five in the case of the Massachusetts Investors Trust.[23] This form of organization offers the possibility of much quicker action than could be secured in the case of a corporation. At the same time it provides for continuity of management because the trustees are selected for life, they select another trustee when one dies, and in general they are not subjected to the restrictions imposed upon directors of corporations. In the case of the International Securities Trust of America the deed of trust states that the trustees "have absolute control and conduct of all business of the trust." [24] The trustees in this case need not even be shareholders. They are also to prescribe the standard to be used for purchasing securities. This standard may be changed but not lowered. The three United companies were incorporated under the laws of the state of Delaware, where the incorporation laws are very favorable. Each company was capitalized at $100,000. Among some of the favorable features of the incorporation laws of Delaware may be mentioned the failure to impose an inheritance tax upon the estate of a

[18] *Ibid.*, pp. 65-66. This danger is always present when an investment trust is formed as an appendage to a bank.

[19] Edge corporations formed under the provisions of Section 25(*a*) of the Federal Reserve Act are not, strictly speaking, investment trusts. The two in existence at the present time are of the acceptance type. Lawrence M. Speaker: *The Investment Trust*, p. 40. This recent study states that The Overseas Trading Corporation is the nearest American approach to the British plan of the investment trust. *Ibid.*, p. 60. The International Securities Trust of America is more nearly like the British plan of the investment trust.

[20] The American Trustee Share Corporation and the United Bankers' Oil Company are so similar in most respects to the three United companies that what is said about the three United companies can be applied to these two companies.

[21] For a discussion of the Massachusetts Trust, see C. W. Gerstenberg, *Financial Organization and Management*, pp. 56-71.

[22] Amended Declaration of Trust, 2.

[23] Agreement and Declaration of Trust, 6.

[24] 3. This control is, however, subject to certain limitations of no very great importance.

consist, of shares of stock issued by

1. Not more than 70% of the funds of the

non-resident decedent [25] and the fact that stockholders or directors may hold their meetings outside the state.

IV. Collateral

The collateral back of the security issues put out by these trusts may be divided into two different groups—special collateral and general collateral. The collateral back of the bankers' shares issued by the three United companies is of the first kind. It consists of stock, mostly common. In the case of the United American Chain Stores the collateral consists of 148 shares of stock in 14 different chain-store companies, including such companies as the United Drug Company, F. W. Woolworth Company, S. S. Kresge Company, and others. Against this collateral there are issued 1,000 bankers' shares for every 148 shares of stock so deposited with the Empire Trust Company.

These different chain-store companies operate 19,357 chain stores in the United States and Canada. Their sales have increased about 800% from 1914 to 1923, their net profits have increased about 508%, and their cash dividends have increased 242% in the same period. Only 4 of these companies have any funded debt and this is very small. One hundred and ninety shares of stock in 10 electric light and power companies constitute the collateral for every 1,000 bankers' shares issued by the American Electric Companies. These electric light and power companies have had excellent records and are regarded as the best in their field. Railroad stocks comprise the collateral back of the bankers' shares issued by the United American Railways. Stocks in 17 railway companies are deposited with the Empire Trust Company at the rate of 115 shares of stock for every 1,000 bankers' shares issued by the United American Railways. These railway companies have a high credit rating and have been very successful. It is worth while to note that in each case of the above-mentioned companies the collateral consists entirely of stock, mostly common, in a particular business—chain stores, railroads, and electric light and power. These companies, whose shares have been deposited with the trustee, operate in different parts of the United States and Canada, thereby insuring a greater degree of diversification and safety.

The collateral back of the shares issued by the American Trustee Share Corporation consists entirely of common stock of 10 different corporations —all industrial except the American Telephone and Telegraph Company. Shares of stock in oil companies comprise the collateral securing the shares issued by the United Bankers' Oil Company. In the case of the Bond Investment Trust the securities at present consist entirely of bonds of various public utility companies. To repeat, the security securing the shares issued by these 6 different investment trusts is of a special character. The general collateral securing the shares issued by the Massachusetts Investors Trust is much more diverse in character than the collateral securing the shares issued by the investment trusts mentioned above. The collateral in the case of the Massachusetts Investors Trust consists, or will

[25] The Standard Daily Trade Service in the Special Supplement dated August 12, 1924, mentions this as an advantage of the investment trust. This is not necessarily so because an investment trust which does not issue bankers' shares but some other type of security would not possess this advantage. This advantage is really the advantage of the incorporation laws of a state.

TABLE I. INTERNATIONAL SECURITIES TRUST OF AMERICA

June 30, 1924

consist, of shares of stock issued by more than 200 companies representing about 60 different industries comprising among others the 5 great groups—banking, railroads, public utilities, insurance, and industrials. Some of these groups are still further subdivided as, for example, the industrial group which includes among others equipment companies, sugar companies, and the like. According to the deed of trust not more than 5% of the par value of the trust certificates issued may be invested in any one stock, and the trustees may not select any stock which does not appear on the approved list. It is to be noted that this collateral includes securities issued by different businesses and is, therefore, called "general" collateral while the other is called "special." However, the collateral in the case of the Massachusetts Investors Trust, like that of the three United companies, consists entirely of stocks, not bonds.

The securities issued by the International Trust of America are secured by collateral which differs in two important respects from the collateral securing the trust shares issued by the other investment trusts: first, the collateral consists of both stocks and bonds; and, second, the collateral comprises securities issued by companies or governments other than those of the United States. Twenty-four countries are represented by the collateral securing the issues put out by the International Securities Trust of America, including such countries as Belgium, Denmark, Switzerland, and others. This represents, perhaps, a more complete diversification than that obtained by the other investment trusts. Moreover, the deed of trust in the case of the International Securities Trust of America places the following important restrictions upon the investments of this trust:

1. Not more than 70% of the funds of the trust available for investment may be invested in securities originating in the United States.
2. Not more than 35% of the funds of the trust may be invested in securities originating in England.
3. Not more than 10% of the total funds which may be so invested in any securities originating in any one country may be placed in securities originating in any one distinct class of business.
4. The amount invested in any one security originating in any one country is restricted according to the amount available for investment, so that if $1,000,000 is available for investment not more than 1¾% may be invested in any one security other than government bonds.
5. The trust cannot hold a majority of any one issue of securities.

As a matter of fact, on October 15, 1923, this investment trust had more than 200 different securities; and by December 31, 1923, this number had increased to 400, 90% of which had a rating of Baa or higher. This number was still further increased by June 30, 1924. Table I, on the following page, shows the securities held by this investment trust on June 30, 1924.[26]

The number of securities owned by the International Securities Trust of America is, therefore, in excess of the number of securities owned by any one of the five British investment trusts previously mentioned.

After purchase, the different securities are deposited with a trustee in accordance with the provisions of the trust deed. The trust company then collects the interest or dividends and pays the holders of the investment trust securities their interest or dividends. Any additional dividends paid by the companies, whose securities are used as collateral, are in general used for the benefit of the shareholders of the trust,

[26] From information supplied by Embree H. Henderson, vice-president of Bull and Rockwell Company.

must continue until the fund is equal to five times the annual bond interest.

That participation by a member of the Exchange or Stock Exchange firm in the forma-

TABLE I. INTERNATIONAL SECURITIES TRUST OF AMERICA
June 30, 1924

Class of Investments	Bonds	Preferred Stocks	Common Stocks	Total	Issues
United States Rails	$ 56,452.26	$ 15,315.50	$16,216.10	$ 87,983.86	(45)
United States Public Utilities	66,898.40	25,044.82	6,662.03	98,605.25	(65)
United States Industrials	215,690.00	200,548.43	20,131.75	436,370.18	(202)
Foreign Corporations	95,115.25	22,568.60	4,040.00	121,723.85	(52)
Foreign Governments	160,747.15			160,747.15	(43)
Total	$594,903.06	$263,477.35	$47,049.88	$905,430.29	(407)
Number of Securities	349	165	38	552	
Percentage in Each	65.7%	29.1%	5.2%	100.0%	

the *cestuis qui trustent,* to use the legal term. This naturally leads to a discussion of the securities issued by these different American investment trusts.

V. Securities Issued by American Investment Trusts

The Massachusetts Investors Trust issues but one type of security. This is, in effect, common stock having a par value of $50 a share offered for sale at $52.50 a share. The United companies issue but one kind of security, called bankers' shares. The price of these shares ranged from $14 a share in the case of the United American Railways to $16.25 a share in the case of the United Chain Stores. These prices are, of course, subject to change. The Bond Investment Trust, the United Bankers' Oil Company, and the American Trustee Share Corporation also issue but one type of security similar to that issued by the Massachusetts Investors Trust.

The capitalization of the International Securities Trust of America, on the other hand, includes $40,000,000 of secured serial gold bonds, $25,000,000 of cumulative preferred shares with par value of $100, and 800,000 common shares without par value. The serial gold bonds bear interest at the rate of 6% a year and are redeemable at 107.50 and accrued interest on 60 days' notice. They may be issued only under the following conditions:

1. The collateral back of them must be equal to at least 115% of the bonds issued or to be issued.

2. This collateral must be diversified as follows:

(*a*) Not more than 10% of the face value of the collateral may at any time be the securities of any one government, state, municipality, or other governmental authority.

(*b*) Not more than 3% of the face value of the collateral may be securities of any one company or organization.

(*d*) When $1,000,000 or more bonds are outstanding, there must be pledged with the trustee securities put out by at least 400 different issuers.

3. When bonds are issued, the total assets of the International Securities Trust of America figured at net cost price, and after deducting all indebtedness except the secured serial gold bonds, must be equal to 180% of the outstanding bonds, including those to be issued.

4. Beginning July 1, 1924, after setting aside accrued bond interest, but before declaring dividends on either the common or preferred stock, not less than 15% of the remaining net earnings must be set aside as a Bond Interest Reserve Fund. This procedure

cedure would be open only to those who are large investors, while the ap-

ability which the small investor does not possess. How can a railroad engi-

must continue until the fund is equal to five times the annual bond interest.

The cumulative preferred stock now paying 7% must have back of it assets equal to at least 133% of the par value of the preferred stock. In event of passing the dividend on the preferred stock and not being able to pay it during the following year, the preferred stockholders have full voting power which is to continue until all dividends have been paid. The common stock at the present time is paying dividends of $5 a year.

It may not be amiss to state here that for the six months ending June 1, 1924, the bond interest requirement on the bonds issued by the International Securities Trust of America was earned six and three-quarter times, the preferred stock dividends were earned four and one-half times, leaving a balance available to the common stockholders equal to $12.12 a year.[27]

VI. Marketability of Investment Trust Securities

Marketability as used in connection with securities conveys the idea of being able to buy or sell securities on some exchange, generally interpreted to mean the New York Stock Exchange. Unfortunately, there seems to be prevalent a belief that the authorities of this exchange will not permit the listing of investment trust securities.[28] This is not true. According to the president of the Exchange, each application for listing such securities will be dealt with on its own merits.[29] The Exchange has adopted a resolution:

> That participation by a member of the Exchange or Stock Exchange firm in the formation or management of investment trust corporations or similar organizations which in the opinion of the Governing Committee involve features which do not properly protect the interests of the investors therein may be held to be an act detrimental to the interest or welfare of the Exchange.

The reason for the adoption of this resolution, to quote from the letter of the president, was "that several plans for investment trusts had come to the attention of the Exchange, which obviously did not protect the interests of the investors." Whether or not the securities issued by these different investment trusts do properly safeguard the interests of the investors in the opinion of the Exchange authorities is a question which at the present time cannot be answered.

If the New York Stock Exchange should not allow the listing of investment trust securities, there is still the possibility of listing them on the Curb Market, or on the stock market of other cities. Then, too, there might be developed a large over-the-counter market for these securities. If there is a wide-spread distribution of these securities, we may rest assured that a market for them will be developed.[30]

As a matter of fact, the bankers' shares issued by the three United companies do possess a high degree of marketability, provided one owns 1,000 shares of any one of these three companies. The agreement provides that one can exchange a block of 1,000 shares for the collateral back of them; and this collateral, in turn, has an excellent market. However, this pro-

[27] This information is taken from the letter sent out by the International Securities Trust Company to its bondholders and shareholders.

[28] It has been said that, because the investment trust may decrease the supply of securities ordinarily dealt in on the Exchange, the authorities of the Exchange are opposed to investment trusts.

[29] Personal letter dated August 13, 1924.

[30] Since the above was written, quotations on investment trust securities have appeared in the New York *Times* and the *Annalist*.

managers of the investment trust are continually looking after the contents of

of the trust. Such restrictions were quite common in British investment trusts in

cedure would be open only to those who are large investors, while the appeal of the investment trust is to the small investor. Moreover, the large investor is the very one who would not be very anxious to exchange these shares for the collateral back of them, because he would then lose one of the chief advantages of holding these bankers' shares—that of paying no inheritance tax.

VII. Services of the Investment Trust

First and most important among the services performed by the investment trust is its ability to meet the needs of the small investor. The number of houses selling securities on the partial-payment plan—unfortunately many of them were crooked—and the sale of Liberty bonds, showed the possibilities and revealed the large amount of capital saved by the small investor. Though the problem of reaching the small investor has received attention from the Stock Exchange [31] and from investment bankers, and many bond issues are now put out in $100 denominations, making it possible for the small investor to buy a "baby" bond if he so desires, it is unfortunate that bond houses cannot afford to expend much effort in selling to many small investors. Consequently, not much progress has been made by bond houses in that line.

But there still remains the problem of selecting good securities, even if the small investor is visited by a bond salesman. The small investor is in no position to make wise selections from a variety of investments, for this is a business requiring considerable training and ability which the small investor does not possess. How can a railroad engineer compare the relative investment values of a share of common stock in the Pennsylvania Railroad, the recent German bonds, and the preferred stock of the United States Steel Corporation? Obviously, the small investor, even assuming that bond salesmen could afford to call on him, does not possess the technical knowledge necessary to select good securities.

Here is where the investment trust can be of real help. The managers of such trusts may be expected to have both the training and the time necessary to make a careful study of investments. This expert advice is at the disposal of the small investor and he can make use of it by buying securities issued by the investment trust. It gives him the benefit of the training and experience of men whose business it is to know about investments.

But the investment trust serves the small investor in another way. It tends to make for a greater degree of safety in investments by means of a degree of diversification not otherwise available except to the large investor. The investment trust invests its capital in a number of securities and then uses the income from these securities to pay interest on its bonds or dividends on its stock. The small investor, because of the small amount of money he has available for investment, is unable to diversify his investments to any extent. He is more or less obliged to put his egg in one basket. But when he purchases securities issued by an investment trust he, in effect, breaks the content of his egg among many baskets, resulting in an added degree of safety because, while some of the securities owned by the investment trust may go "bad," others may be going "good." Moreover, the

[31] At one time the authorities of the Exchange gave considerable thought to the advisability of allowing sales of stock in units of fifty shares instead of one hundred.

This, of course, involves discrimination, tion that one of the American invest-

managers of the investment trust are continually looking after the contents of the several baskets, thereby securing to the small investor the eternal vigilance which is just as necessary as the judicious selection of investments.

The investment trust performs a second service essentially social in its nature. The small investor, who has a safe outlet for his capital in the form of investment trust securities, is encouraged to save. It makes for thrift and capital accumulation among members of the community, who in turn become more interested in questions of taxation and the like. A large class of people of this sort is an asset to any country, because the magic of private property not only turns grains of sand into gold, but also alters one's outlook upon life.[32]

VIII. The Future of the Investment Trust

Will the investment trust take a place among the financial institutions of this country? The answer to this question depends almost entirely upon the manner in which these trusts are managed. To quote from a recent pamphlet, "the difference between high and low dividends is the skilful and yet cautious management which characterizes the companies of cosmopolitan interest." [33] What, then, does careful management imply? First, a deed of trust which does not unduly restrict the activities of the trust. Such restrictions were quite common in British investment trusts in the earlier days, but experience has shown that these restrictions imposed a burden upon the trust.[34] Hence, deeds of trusts need to give the trustees rather liberal powers. Second, a trust company of unquestioned integrity must be selected as the trustee. This is so obvious that it needs no explanation. Third, the trustees must be men of unimpeachable character and honesty. They must realize that they are trustees. This means, among other things, that they must give their work serious thought and attention. It means that the trustees must not use their office as a means of unloading upon the trust worthless securities in which they are interested. A fourth factor making for good management is the wise selection of securities to be purchased by the trust. Now such securities need not possess the high degree of safety found in Liberty bonds or high-grade state bonds. Here safety is overemphasized. It does mean the avoidance of purely speculative securities. In this connection it is interesting to note that the cable address of an English firm very active in trust company management is "Fledgling Stock." There is no objection to buying fledglings, provided the fledgling shows real possibilities of flight.[35] In other words, an investment trust can frequently buy securities which, for one reason or another, are selling at prices which make them bargains.

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[32] Other services of the investment trust are to be found in Lawrence M. Speaker: *The Investment Trust*, pp. 60-68. As Mr. Speaker points out in this connection, the investment trusts placed their securities at the disposal of the British Government during the recent war and the Government, in turn, used them as collateral for loans.

[33] Robinson, Leland R.: *British Investment Trusts*, p. 16. This pamphlet is *Trade Information Bulletin* No. 88 of the Finance and Investment Division of the Department of Commerce. It has in it many interesting facts about British investment trusts, its discussion of accounting methods being especially good.

[34] HARVARD BUSINESS REVIEW, Vol. 2, No. 3, p. 297. The trust form of organization in Great Britain has been superseded by the corporate form.

[35] Robinson, Leland R.: *British Investment Trusts*, p. 9.

MANUFACTURING OPERATIONS AND

This, of course, involves discrimination, but that is what investment trust managers ought to possess.

Perhaps the way in which the dividend policy of an investment trust is managed is the best test of good management. The chairman of the Edinburgh Investment Trust states that one of the secrets of trust management is to allow a portion of the net revenue to accumulate at compound interest.[36] This is, in effect, the setting up of a reserve to take care of future losses. This is especially necessary because these trusts are making an appeal to the small investor, one who needs safety and is unable to understand why a dividend rate should fluctuate, especially downward. The Scotch companies frequently have both visible and invisible reserves to take care of future losses. It is interesting to note in this connection that one of the American investment trusts has had a part of its collateral common stock in the American Woolen Company. This company has recently passed its dividend. It is not unreasonable to suppose that other companies, whose stocks are collateral investment trust shares, may at some time in the future be obliged to reduce or omit their dividends. This will reduce the income of the trust and also reduce the value of the shares. To provide for emergencies like this it is much better for the investment trust to start with a small dividend, to accumulate large reserves to take care of future losses, and then in the future, if it seems wise, to issue a stock dividend. This is conservative, to be sure, but that is necessary in investment trust management. It prepares for the seven years of famine. Failing in good management, the investment trust company will be weighed in the balance and found wanting.

[36] Robinson, Leland R.: *British Investment Trusts*, p. 23.

MANUFACTURING OPERATIONS AND THE BUSINESS CYCLE

By WILLIAM L. CRUM AND HOMER B. VANDERBLUE

THE business cycle—the recurrent alternation of activity and depression—frequently creates important problems of general, as well as of detail, policy for the manager of a manufacturing enterprise. Active business is likely to cause increased operations, larger commitments for materials, and sometimes, as orders accumulate beyond capacity, new investment in plant and equipment. Inactive business, on the other hand, is likely to result in curtailing output, in holding down commitments and in avoiding investment in fixed assets. A decision to buy or sell, to curtail or to expand, to wreck or build—typical tasks of the executive of a manufacturing business—necessarily requires a forecast of the course of business during the months ahead.

For the making of such forecasts the statistical methods developed in recent years for the study of the business cycle can often be of considerable assistance, especially where the executive finds that his business is responsive to what may be called general cyclical influences. If a close relationship between general business conditions and the operations of a particular company can be disclosed, the importance of an analysis which measures the character of that relationship must necessarily be large. Even where the seasonal and growth factors are more important than the influence of changing business conditions, modern statistical analysis can be utilized in the creation of seasonal standards and in the appraising of the probable effect of changes in general business, no matter how slight.[1]

The present discussion is concerned with two quite distinct manufacturing enterprises, one engaged in making hard-wood flooring, and the other, machinery and equipment. While demand for the products of the former is limited to building construction and repair, the demand for the products of the latter is dependent upon general industry. In both instances, it is believed, the influences of the business cycle are important.[2] The data which we shall consider are such as many executives already possess and use: orders entered, sales billed, production, stocks on hand and unfilled orders (whether measured in dollars or physical units) and net earnings.

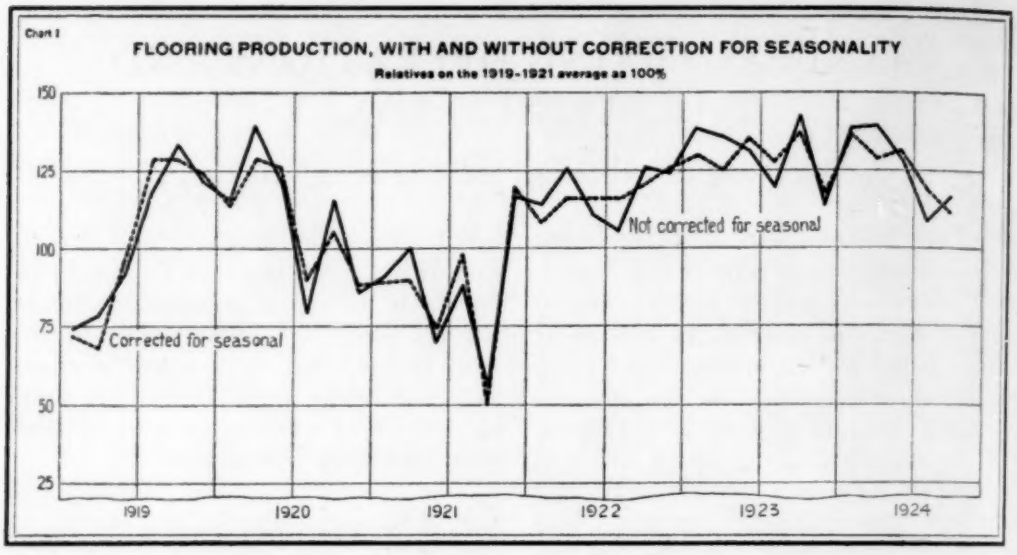
I. Flooring

The data covering the operations of the manufacturer of hard-wood flooring were quite complete and included, monthly from 1919 to date, the following important statistics of the business:

[1] This is the case with the Public Service Electric Company, recently studied in the pages of this REVIEW: "The Relation of a Public Utility to the Business Cycle," by the present authors, Vol. 2, pp. 409-420; Vol. 3, pp. 8-19.

[2] For a study of building construction activity as affected by general business conditions, see "An Analysis of Building Statistics for the United States," by Joseph B. Hubbard, *Review of Economic Statistics*, Vol. 6, pp. 32-62, and especially Dr. Hubbard's general conclusions on cyclical movements in the building industry, 1910-1923, pp. 38-41. Statistics are not now available for a parallel study of the demand for machinery and equipment.

eral similar concerns or for the entire vealed by the uncorrected figures, how-



production, unfilled orders, stocks on hand, sales (orders entered), and shipments.[3] All figures were in thousands of board feet; and thus the absence of the dollar factor removed any obstacles due to price changes, and in particular due to the inflation and deflation following the war.

A brief examination of the actual figures, whether in tabulated or charted form, suffices to reveal the extreme irregularity of the fluctuations in production, sales, and shipments. That such irregularity should be revealed in the data applying to a particular concern is not surprising, however; certainly less steadiness would be expected than in corresponding data for a group of sev-

[3] Arrangements to secure data for this case were made through the courtesy of Mr. George W. Keehn, secretary of the Maple Flooring Manufacturers' Association; and the figures actually used were generously furnished by a member of that association. The authors are grateful also to Mr. W. Floyd Maxwell, assistant statistician of the Harvard Economic Service, for cooperation in analyzing the numerical material.

TABLE I. FLOORING PRODUCTION, ACTUAL DATA (upper series) IN THOUSANDS OF FEET, AND RELATIVES (lower series) ON THE 1919-1921 AVERAGE AS 100%, CORRECTED FOR SEASONAL VARIATION

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	606	541	592	608	655	768	874	964	940	1,131	965	913
1920	981	817	1,044	1,110	931	938	809	416	850	943	770	547
1921	734	670	813	742	473	604	611	757	26	842	869	938
1922	938	808	1,025	921	832	876	754	888	990	966	931	974
1923	1,083	960	1,088	1,002	1,002	1,025	817	1,041	1,120	1,086	841	927
1924	1,101	1,040	1,059	1,096	978	986	908	772	819	991		
1919	71	74	64	71	91	103	130	128	121	137	129	120
1920	119	110	122	136	127	126	122	57	99	112	104	73
1921	87	91	92	88	67	82	96	101	2	99	116	124
1922	114	101	120	111	114	118	115	118	127	115	125	128
1923	133	128	128	122	136	137	123	132	144	131	113	122
1924	135	139	124	134	133	132	135	103	105	118		

eral similar concerns or for the entire industry. Thus, production of flooring by a particular company is presumably much less regular in its month-to-month variations than total production of flooring in the United States. This characteristic unsteadiness of the fluctuations for an individual concern usually renders the analysis for a particular company less satisfactory than for an entire industry. In the present instance, however, the irregularities are notably large and frequent, even for a particular concern. Indeed, the lack of uniformity in the movement is so great for all series here under investigation that the usual procedure in analysis of monthly data is not only difficult of application but in some respects quite impossible. The cyclical influence is revealed by the uncorrected figures, however, and nothing of a practical nature is lost because the refined methods of modern statistical analysis are of little avail.

The month-to-month irregularities proved so great, moreover, that it seemed unwise to attempt detailed study of the monthly figures; and (with a single exception, discussed below) bimonthly averages were therefore calculated for each of the five series. It is probable that the use of the bimonthly average is distinctly better practice than that of using the two-month *moving average*,[4] which is a device sometimes suggested for the purpose of smoothing

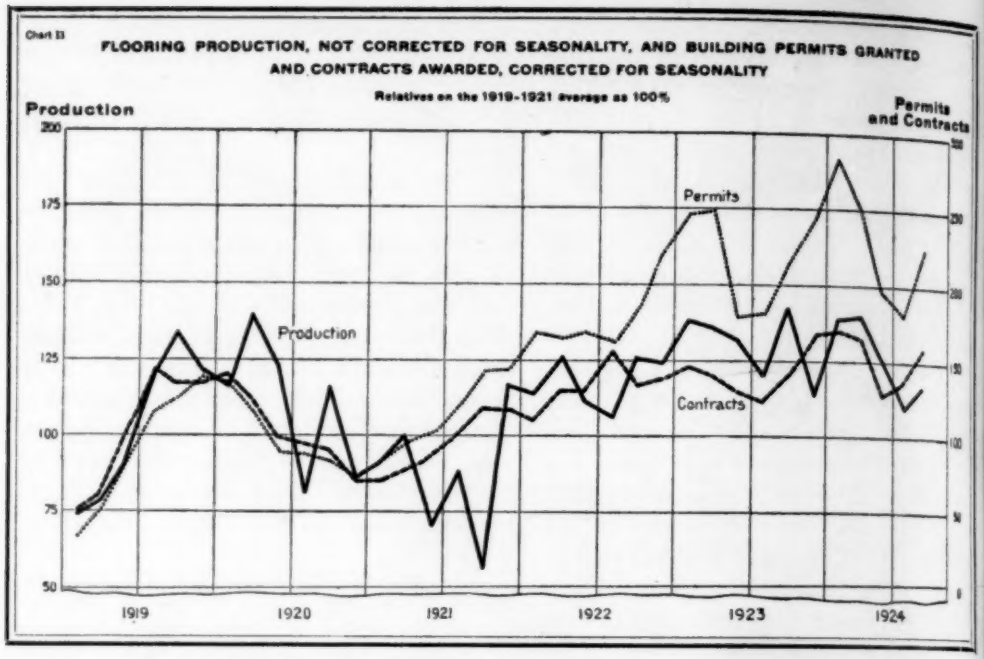
[4] The average of January and February, assigned to February 1; the average of February and March, assigned to March 1; and so forth.

TABLE II. SERIES PERTAINING TO THE OPERATIONS OF A FLOORING MANUFACTURER, AND TO THE DEMAND FOR FLOORING

Relatives on the 1919-1921 average as 100%

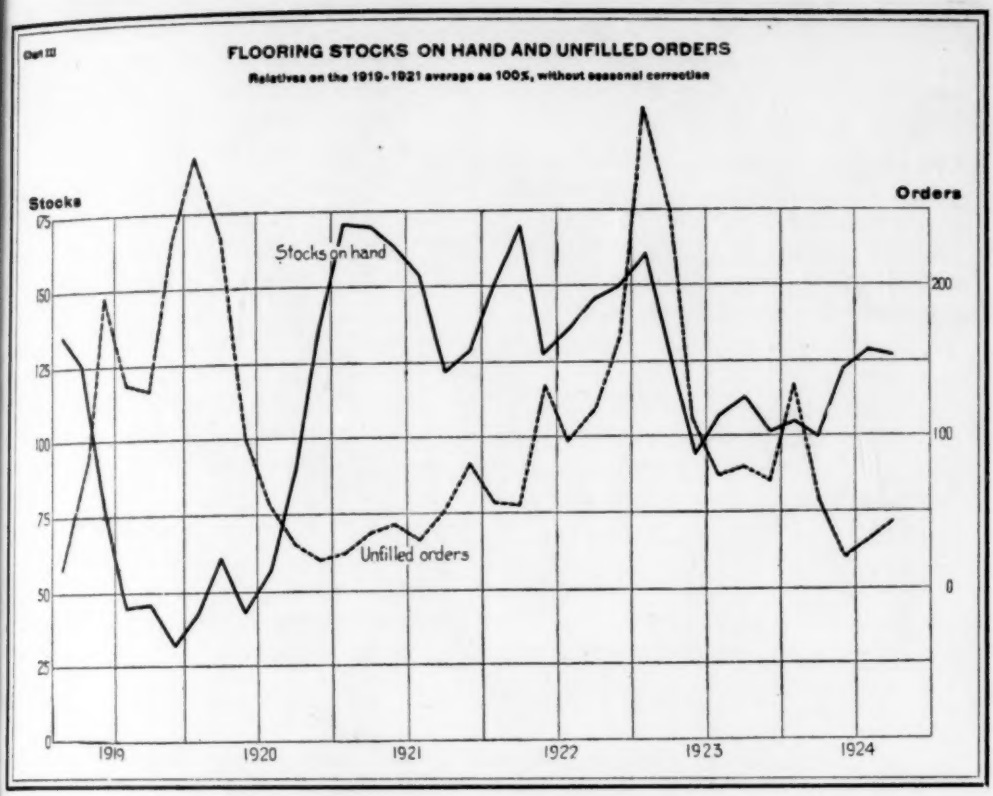
Year and Month	Production	Production*	Stocks on Hand	Unfilled Orders	Sales	Shipments	Permits*	Contracts*
1919								
Jan.-Feb.	74	72	135	16	66	61	32	50
Mar.-Apr.	78	68	125	75	199	108	51	63
May-June	92	97	78	195	230	188	83	97
July-Aug.	119	129	45	138	92	162	112	144
Sept.-Oct.	134	129	46	133	132	118	125	134
Nov.-Dec.	122	124	32	233	245	158	139	135
1920								
Jan.-Feb.	116	114	43	289	107	94	136	141
Mar.-Apr.	140	129	61	237	61	98	117	124
May-June	122	126	43	102	33	159	90	98
July-Aug.	80	90	57	57	35	64	88	95
Sept.-Oct.	116	106	89	31	14	29	83	91
Nov.-Dec.	86	88	137	21	7	15	71	70
1921								
Jan.-Feb.	91	89	171	25	41	30	83	70
Mar.-Apr.	100	90	170	38	113	113	95	78
May-June	70	74	163	44	88	88	101	87
July-Aug.	88	98	154	34	107	109	118	101
Sept.-Oct.	56	50	122	53	143	104	142	118
Nov.-Dec.	117	120	129	82	87	98	143	117
1922								
Jan.-Feb.	114	108	152	58	52	64	166	110
Mar.-Apr.	126	116	170	56	108	115	164	131
May-June	111	116	156	135	193	137	168	131
July-Aug.	106	116	137	97	102	145	161	157
Sept.-Oct.	126	121	146	119	118	94	184	132
Nov.-Dec.	124	126	150	166	185	128	218	138
1923								
Jan.-Feb.	138	130	160	319	212	106	246	146
Mar.-Apr.	136	125	127	251	111	241	249	141
May-June	132	136	94	112	69	144	178	130
July-Aug.	120	128	107	75	90	107	180	124
Sept.-Oct.	143	138	113	80	135	141	215	143
Nov.-Dec.	114	118	102	71	125	138	245	167
1924								
Jan.-Feb.	139	137	105	135	169	129	284	170
Mar.-Apr.	140	129	100	58	70	140	252	165
May-June	128	132	123	23	68	88	195	128
July-Aug.	109	119	129	32	121	107	179	138
Sept.-Oct.	117	112	127	45	100	107	223	161
Nov.-Dec.								

*Corrected for seasonal variation.



out the irregularities of series. We believe, however, that the method of moving averages should be used very sparingly in smoothing out the irregularities of series, either in connection with their analysis or their interpretation. The chief objections to a curve of moving averages are two: (1) that it often obscures significant turning points, and (2) that it tends to delude the observer by indicating as a monthly figure an item which is properly the average of several months. It is obvious of course that, in some instances, a series of bimonthly figures will similarly "obscure turning points"; but there is a real difference between *knowing* that one has only bimonthly (or quarterly) data and *thinking* that bimonthly (or quarterly) averages really show monthly movements when in fact they do not. There are, to be sure, some exceptional cases in which excellent statistical reasons may be adduced for resorting to moving averages. But no such reasons are apparent in the present instance, and it seems that these series belong to that majority of cases for which the moving average device should not be used.

The second disturbing characteristic of the series of data under examination is that nearly all of them are affected with an appreciable, perhaps very considerable, seasonal movement. Unfortunately this seasonal effect, which is fairly apparent from the charts of actual data, is not uniform in its timing. This is a very perplexing property of the seasonal influence in a numerous group of statistical series, those of a general nature as well as those pertaining to individual concerns. In many series where seasonal swings exist, the peaks and dips shift slightly earlier or later in certain years, and this non-uniformity in timing renders full measurement of the seasonal swing by available methods quite impossible. Certain devices have indeed been suggested for measuring variable, or shifting, seasonality; but it is believed these methods are yet in the controversial stage, and in

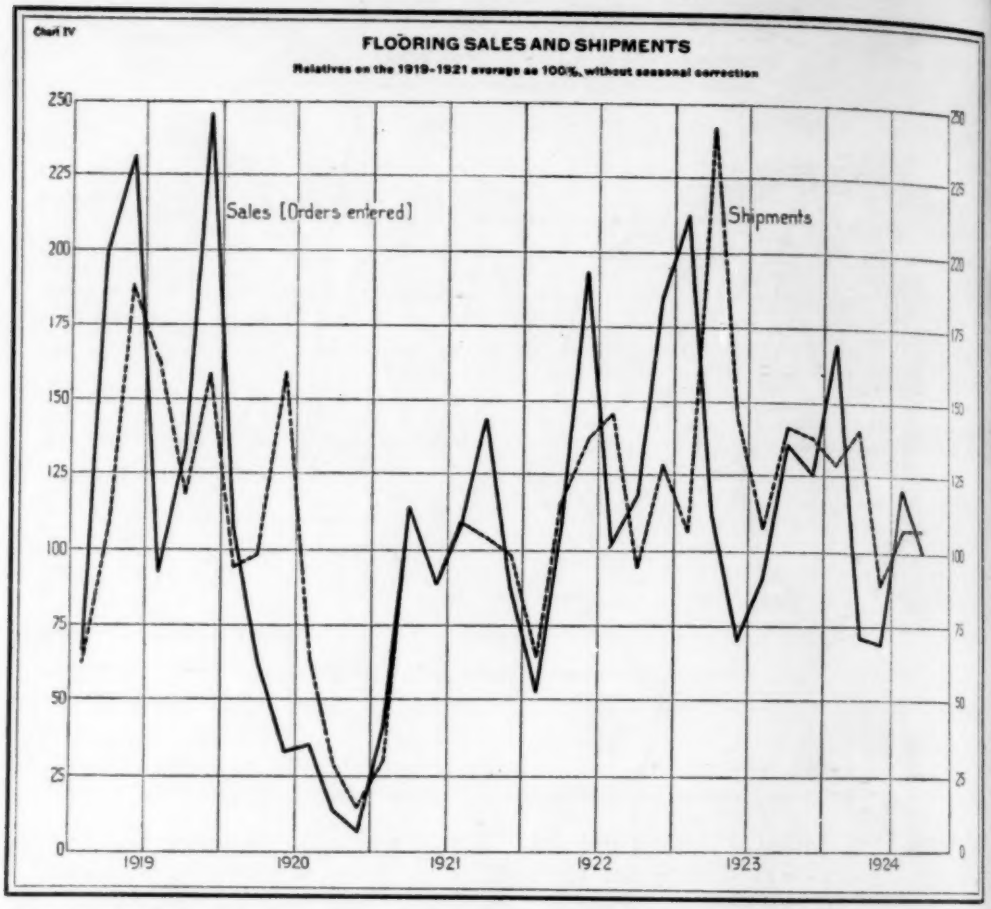


any case it is doubtful if they will be properly applicable to short series (less than six years in the present problem).

The fundamental difficulty is that fluctuations which may be due to shifts in seasonality may also be due to cyclical influences. In studies directed primarily to the investigation of the effects of the business cycle it is clearly unwise to "eliminate" as a "seasonal movement" a variation which may in fact be the manifestation of changing conditions in general business.

In addition to the non-uniformity of timing of the seasonal swing, the fact that several of these series have many highly irregular fluctuations affords a further objection to measuring seasonality by the usual methods. For a series which is less than six years long, the presence of frequent and considerable irregularities greatly reduces the accuracy of any determination of seasonal indexes. To illustrate the situation as it arises in the present case, the monthly series for production (upper half of Table I) was corrected for seasonal variation by the usual method.[5] The resulting adjusted relatives (lower half of Table I) were expressed in bimonthly averages to facilitate comparison with similar averages of relatives uncorrected for seasonal variation. These two series appear in Columns 1

[5] This method was devised by Professor Warren M. Persons and is described by him, *Review of Economic Statistics*, Vol. 1, p. 12; a non-technical manual of instructions, published originally by the Harvard Economic Service, *Comparison of an Individual Business with the Harvard Index of General Business Conditions*, is reprinted as Chapter XI, in *Problems in Business Economics* by Homer B. Vanderblue (A. W. Shaw Co., 1924).



and 2 of Table II, and Chart I compares the corresponding curves. It is clear that the "elimination" of seasonal variation does not result in any considerable improvement. The differences between the two curves are not extensive, and the corrected curve does not appear less irregular than the uncorrected. This chart is presented to show how futile any attempt at measuring seasonality must be in this problem, and to make clear that such examination as we make of cyclical movements should rest upon uncorrected data.

In Chart II comparison is made between bimonthly indexes (not corrected for seasonality) of the company's production of flooring and indexes (corrected for seasonality) of the value of building permits granted and contracts awarded.[6] The production curve shows that the company's operations suffered heavily in the depression of 1920-1921, and that, since the late months of 1921, the volume of production has been on a sustained high level. The curves for permits and contracts, which reflect the demand for building materials, clearly forecast, through their steady advance in 1921, the subsequent recovery in the company's production. It is probable that the tardy response of the latter to

[6] The permits and contracts series are based upon those prepared by the Harvard Economic Service, and presented from time to time in its *Weekly Letter* as in that of November 22, 1924. Vol. III, p. 340.

the stimulus of increased building demand in 1921 was partly due to the fact that flooring is a material needed relatively late in building construction. On the other hand, the company's stocks were large at the time, since they had been built up rapidly in 1920; and it was only in the late months of 1921 that stocks declined considerably. (See Chart III.)

In 1923 and 1924 building operations were practically at the capacity of the construction industry. The volume of new projects begun in the first 10 months—which includes the season of most active building—of 1924 exceeded that of the corresponding period of 1923, which had been the largest ever recorded. This situation indicated a sustained demand for flooring for some months to come. It should be noted, however, (see Chart III) that the company's stocks have recently been maintained at a high level, in consequence of the continued large volume of production (Chart II) and in spite of heavy shipments.

Chart IV reveals a tendency for sales (orders entered) to precede shipments at most turning points, and moderately large sales would tend to indicate a considerable continuance of shipments in good volume. The fall of unfilled orders to levels approximating those of the winter of 1920-1921 (Chart III) suggests that the company's operations are now well caught up on demand.

II. Machinery and Equipment

The Allis-Chalmers Manufacturing Company, which is engaged in the mak-

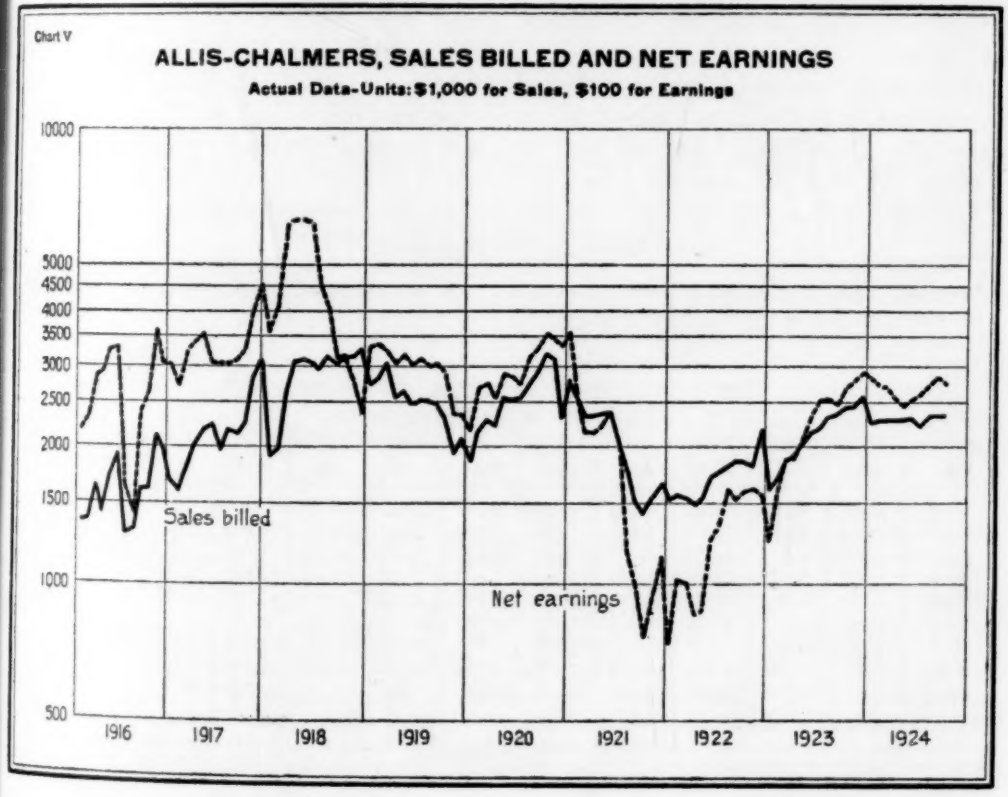


TABLE III. ALLIS-CHALMERS, SALES BILLED

Actual data in thousands of dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1916	1,366	1,368	1,641	1,435	1,733	1,938	1,292	1,312	1,614	1,638	2,114	1,990
1917	1,691	1,615	1,878	2,035	2,177	2,230	1,974	2,184	2,129	2,252	2,842	3,123
1918	1,900	1,991	2,699	3,076	3,108	3,054	2,959	3,167	3,086	3,196	3,198	3,597
1919	2,755	2,803	3,045	2,574	2,674	2,486	2,530	2,532	2,497	2,310	1,923	2,096
1920	1,868	2,162	2,291	2,239	2,584	2,546	2,579	2,785	2,905	3,209	3,126	3,223
1921	2,817	2,510	2,330	2,330	2,336	2,348	2,063	1,786	1,520	1,430	1,520	1,696
1922	1,531	1,579	1,561	1,497	1,566	1,716	1,799	1,817	1,863	1,858	1,824	2,181
1923	1,617	1,727	1,877	1,905	2,031	2,145	2,192	2,312	2,362	2,417	2,446	2,580
1924	2,252	2,280	2,288	2,296	2,304	2,310	2,244	2,346	2,336	2,327		

ing of a wide variety of machinery, including the largest and most powerful prime movers and electrical machinery, is the other manufacturing enterprise which we have studied.[7] In the case of the statistics of this company the figures are given in dollars. They therefore reflect the abnormal conditions resulting from the inflation of prices during the war (and the short business cycle which followed) and from the subsequent deflation.

The actual monthly figures reported by the company for gross sales and net earnings, 1916-1924, are shown in Tables III and IV and in Chart V. These two curves tell the story of the war boom, which stimulated all branches of the machinery business, the hesitancy with the coming of peace, the 1920 expansion, the 1921 depression, and since then substantial improvement, marked by irregularity and, from time to time, hesitancy. These same figures, after correction for seasonal variation, are shown, for the years 1919-1924, in index number form, together with the general business curve—Curve B—of the Harvard Economic Service, in Chart VI. The method of calculating these index numbers (or adjusted relatives as they are frequently called) was explained at some length in connection with our recent discussion of the operations of the

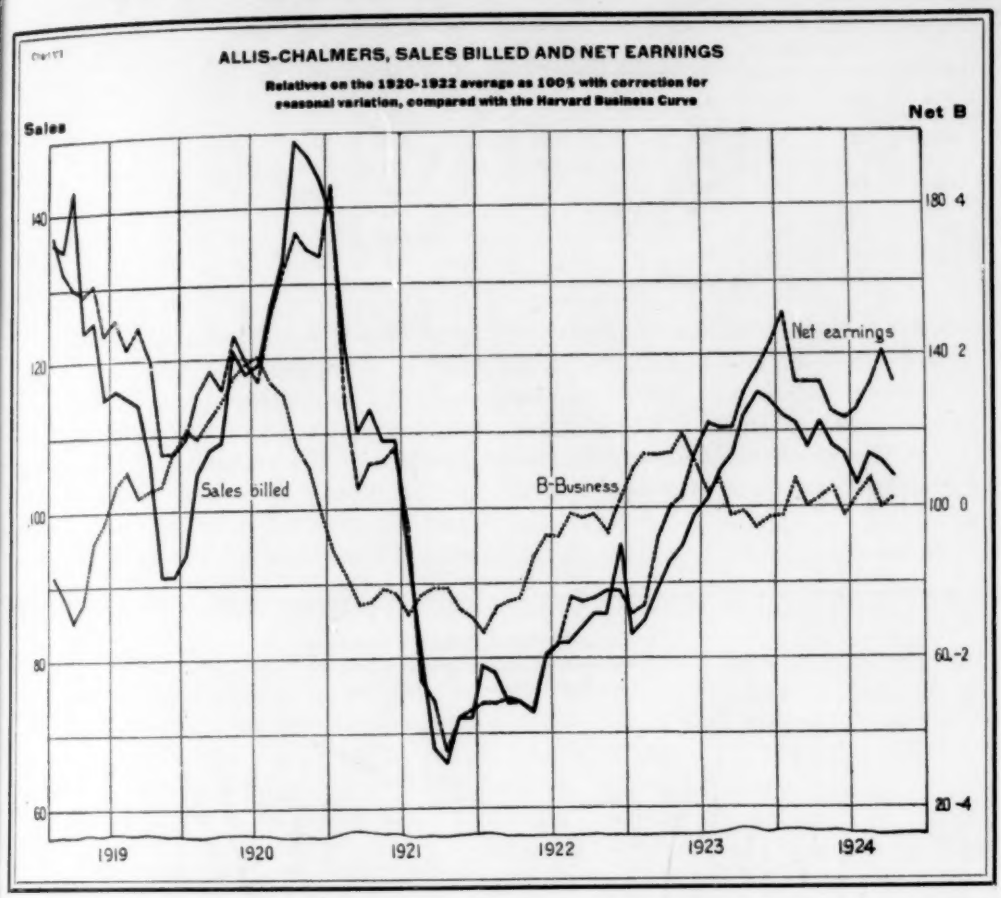
[7] Monthly data on sales billed and net earnings were compiled largely from published reports in the *Commercial and Financial Chronicle;* but certain missing items, together with the data on orders booked and unfilled orders, were generously furnished by the company.

TABLE IV. ALLIS-CHALMERS, NET EARNINGS *

Actual data in hundreds of dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1916	2,197	2,321	2,885	2,915	3,279	3,314	1,636	1,424	2,392	2,670	3,591	3,026
1917	3,015	2,732	3,260	3,404	3,566	3,054	3,043	3,046	3,104	3,251	4,003	4,625
1918	3,601	4,188	6,174	6,289	6,312	6,237	4,507	4,074	3,122	3,158	2,309	2,089
1919	3,308	3,383	3,268	3,069	3,190	3,010	3,121	3,002	3,040	2,903	2,363	2,338
1920	2,185	2,703	2,784	2,552	2,907	2,868	2,764	3,188	3,301	3,559	3,458	3,372
1921	3,537	2,629	2,176	2,149	2,228	2,381	2,013	1,185	1,015	765	940	1,136
1922	744	1,035	1,008	855	878	1,265	1,335	1,634	1,535	1,603	1,624	1,573
1923	1,235	1,567	1,885	1,904	2,030	2,349	2,530	2,547	2,493	2,730	2,833	2,932
1924	2,836	2,760	2,716	2,565	2,462	2,537	2,604	2,775	2,867	2,746		

* The items for 1921 differ from those actually published. The published figures showed an exceptional peak in December due to an excess allowance during the year for federal taxes. This excess has been distributed among the 12 monthly items according to information furnished by the company.



Public Service Electric Company.[8] Such corrections are not worth while for the war years, since conditions arising out of the emergency dominated the fluctuations and obscured normal seasonal influences. Moreover, since the statistics cover a very brief troubled period marked by extreme price disturbances, no measurement of long-time growth (secular trend) has been attempted. But corrections for seasonal variation give indexes which, when plotted, are comparable with the Harvard business curve, especially from the point of view of the *timing* of important changes.

The series for sales billed and for net earnings, for the interval 1919 to date,

[8] See Footnote 5.

TABLE V. ALLIS-CHALMERS, SALES BILLED

Relatives on the 1920-1922 average as 100%, corrected for seasonal variation

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	136	135	143	124	125	115	116	115	114	107	91	91
1920	94	105	108	109	121	118	119	127	133	149	147	144
1921	139	121	110	113	109	109	94	80	68	66	72	72
1922	79	78	74	74	73	79	82	82	84	86	86	95
1923	83	85	89	93	95	99	101	105	107	112	115	114
1924	112	111	108	111	108	107	103	107	106	108		

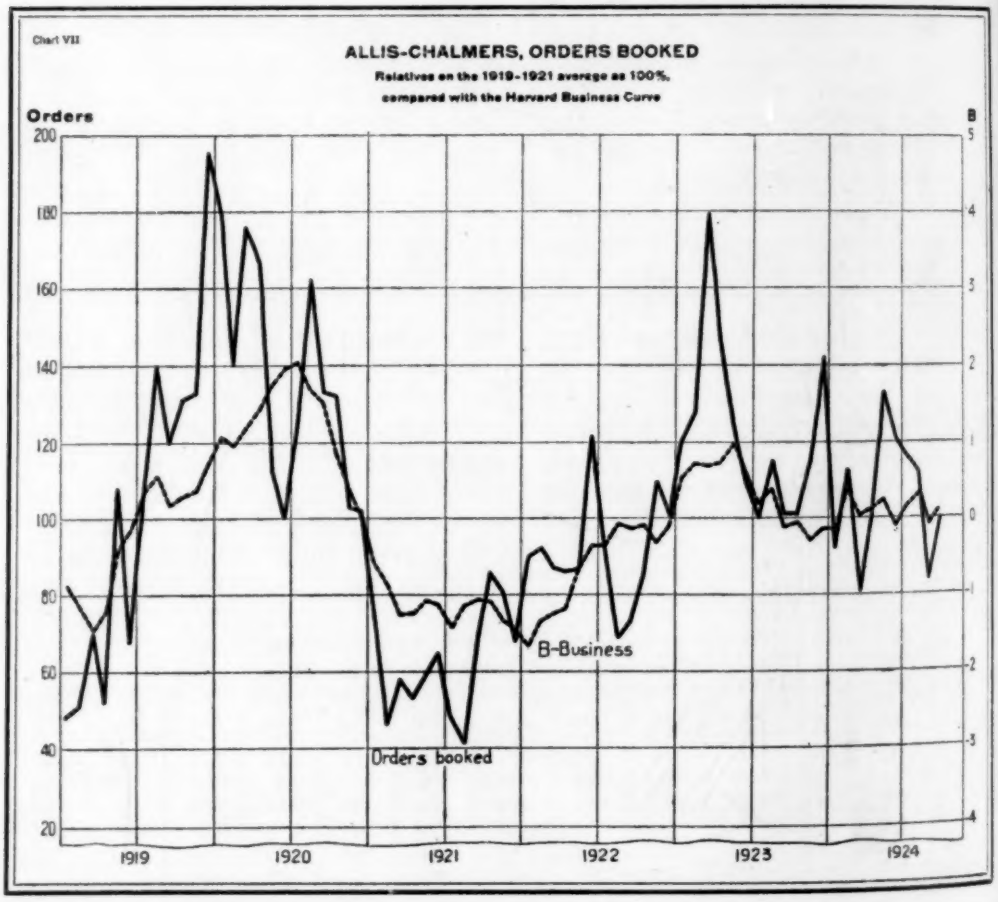
TABLE VI. ALLIS-CHALMERS, NET EARNINGS

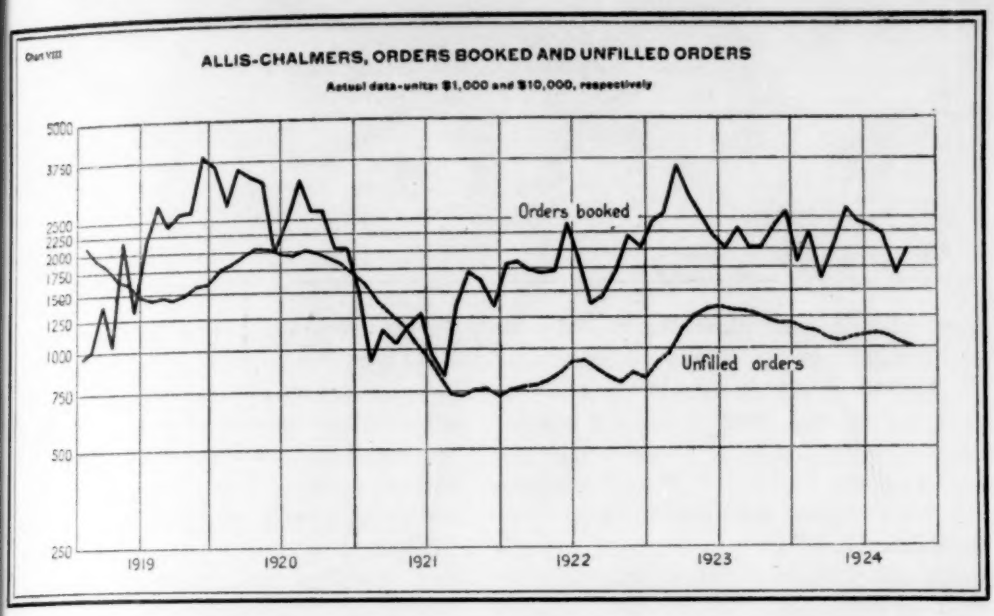
Relatives on the 1920-1922 average as 100%, corrected for seasonal variation

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	174	164	160	158	161	147	151	143	149	140	115	115
1920	119	131	137	132	146	140	134	152	162	173	169	167
1921	186	127	106	112	113	116	96	54	49	35	44	46
1922	48	48	49	48	46	60	62	76	75	76	78	78
1923	72	74	92	100	103	114	122	121	121	130	136	143
1924	151	133	133	133	125	123	126	132	141	133		

were expressed as relatives to the 1920-1922 average as 100%, and corrected for seasonal variation.[9] The results appear in Tables V and VI, and in Chart VI. Although there is some indication of seasonal variations in orders booked and in unfilled orders, such variations are so irregular that they cannot successfully be measured and so slight that they do not constitute an obstacle to the analysis. The actual data for these series appear in Tables VII and VIII, and Chart VIII is based upon the figures in this form. For purposes of com-

[9] See Footnote 5.





parison with the Harvard business curve and the other adjusted series, in Charts VII and IX, orders entered have been expressed as relatives (uncorrected for seasonality) on the 1919-1921 average at 100%, and appear in Table IX on this basis.

The comparability indicated by Chart VI is of considerable practical importance, since it discloses the dependence of Allis-Chalmers sales (and net earnings) upon general business conditions. Very clearly this is a company which can make use of the cyclical analysis explained in our previous articles. The two company curves, while moving very closely together, tend to lag behind the general index; especially was this the case at the break in the summer of 1920. This "lag" probably arises because both statistical series indicate the results of operations undertaken in earlier months, in response to an increased demand such as is recorded in orders entered. Such a lag would be quite normal since heavy equipment is frequently built on special order and an appreciable time necessarily elapses between the taking of the order and the shipment of the finished product. There is, furthermore, substantial coincidence of the curve for orders entered with that for general business. This is undoubtedly due to the fact that business

TABLE VII. ALLIS-CHALMERS, ORDERS BOOKED

Actual data in thousands of dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	961	1,014	1,395	1,042	2,167	1,360	2,134	2,803	2,408	2,612	2,663	3,893
1920	3,583	2,792	3,521	3,345	2,244	1,998	2,515	3,249	2,658	2,638	2,061	2,040
1921	1,486	912	1,155	1,058	1,188	1,297	950	826	1,382	1,724	1,618	1,357
1922	1,801	1,840	1,741	1,715	1,734	2,429	1,833	1,373	1,452	1,711	2,200	2,023
1923	2,428	2,569	3,581	2,921	2,514	2,207	2,008	2,300	2,012	2,021	2,293	2,841
1924	1,831	2,253	1,612	2,003	2,654	2,417	2,313	2,245	1,705	2,000		

TABLE VIII. ALLIS-CHALMERS, UNFILLED ORDERS

Actual data in thousands of dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	21,359	19,570	17,921	16,390	15,883	14,756	14,361	14,632	14,543	14,844	15,584	15,866
1920	17,582	18,213	19,443	20,549	20,208	19,661	19,597	20,062	19,815	19,244	18,179	17,047
1921	15,716	14,119	12,944	11,671	10,523	9,473	8,359	7,399	7,261	7,555	7,653	7,301
1922	7,570	7,831	8,011	8,229	8,397	9,111	9,144	8,700	8,289	8,141	8,517	8,216
1923	9,026	9,868	11,571	12,587	13,069	13,131	12,947	12,935	12,585	12,189	12,036	12,000
1924	11,579	11,552	10,876	10,582	10,933	11,039	11,109	11,008	10,377	10,050		

men who buy equipment are likely to feel pressure to undertake expansion of their plants when they find their own orders piling up. Such pressure usually occurs during the later stages of an upswing of the business cycle. Its effects upon a company making machinery are very clearly shown on Chart VII, which compares indexes for new business (orders entered) with the Harvard business curve; they are also shown on Chart VIII (unfilled orders).

Since orders entered tend to coincide with the movements of general business, they tend to anticipate both sales billed and net profits (Chart IX). Moreover, following a reversal of general business (either up or down) the curves for orders entered and sales billed have moved in opposite directions for some

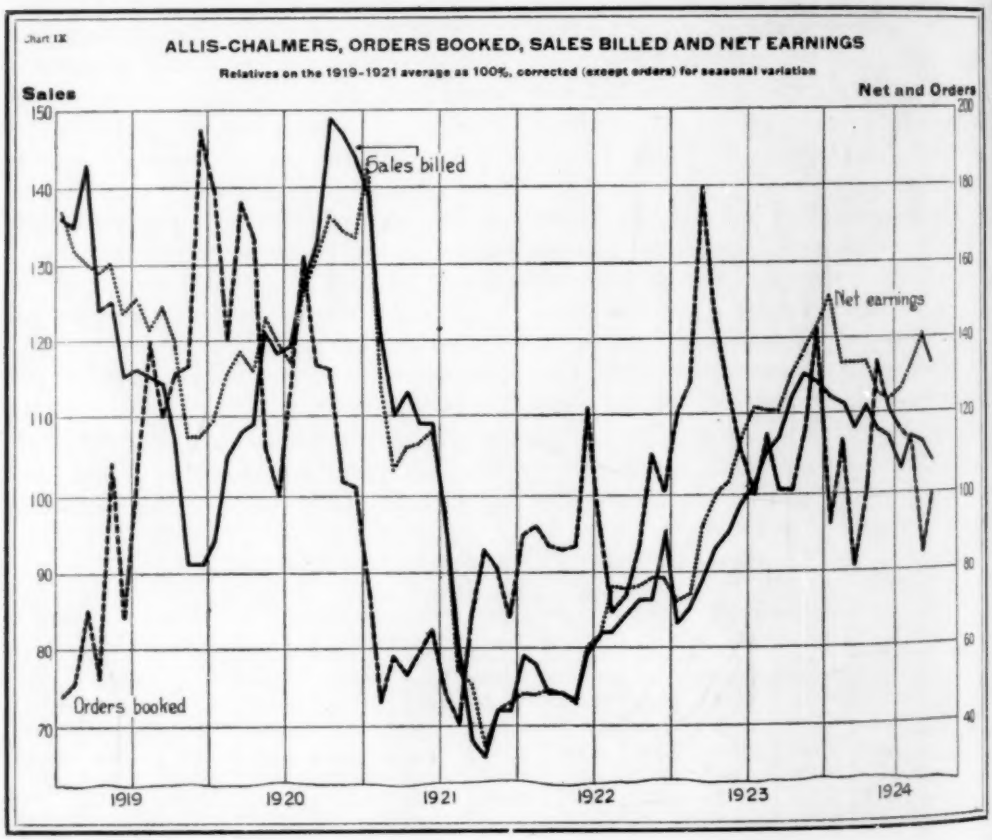


TABLE IX. ALLIS-CHALMERS, ORDERS BOOKED
Relatives to the 1919-1921 average as 100%

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	48	51	70	52	108	68	107	140	120	131	133	195
1920	179	140	176	167	112	100	126	162	133	132	103	102
1921	74	46	58	53	59	65	48	41	69	86	81	68
1922	90	92	87	86	87	122	92	69	73	86	110	101
1923	121	128	179	146	126	110	100	115	101	101	115	142
1924	92	113	81	100	133	121	116	112	85	100		

months. Thus, while orders entered began to drop off at the beginning of 1920 and fell precipitately in the last quarter of that year and early in 1921, sales billed (which had declined during 1919 —thus suggesting that a drop in new business had occurred after the armistice) continued to increase until December. By the latter date general business (as recorded by the business curve) was well down in the trough of the depression. In the second quarter of 1921 new buying (shown by the advance in orders) served to check temporarily the drop of the sales curve, although it was not until the second half-year that buying on any considerable scale took place. By the summer of 1921, however, those business managers who had come through the depression in strong position were beginning to take advantage of current low prices for labor and materials to make needed additions to their plants in anticipation of the demand which would appear during a period of business improvement.

The decline in sales billed during most of 1921 indicates that the falling off in new business during 1920-1921 led to rather prompt curtailment of operations by the Allis-Chalmers management. Even when business picked up in the fall, current operations were apparently expanded only at a moderate pace, and unfilled orders (Chart VIII) remained upon an even level. Indeed, unfilled orders did not really begin to mount until the improvement under way had greatly stimulated general industry to increase its orders for the company's products. The result of this improvement was that orders booked were well maintained during 1922. In March, 1923, the figures were close to the peak of December, 1919. This increased volume of new orders in turn served to build up a considerable back-log of unfilled orders; and, although the booking of new business has subsequently fallen below the figures of 1923, sales billed have been well maintained. The curve for net earnings has, therefore, continued at a rather high level, consistently lagging behind orders entered, as in the preceding years. This relationship is likewise revealed in Chart IX.

TABLE X. HARVARD INDEX OF GENERAL BUSINESS, DEVIATIONS FROM NORMAL, EXPRESSED IN STANDARD UNITS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1919	− .88	−1.14	−1.46	−1.23	− .40	− .16	.35	.54	.18	.26	.34	.76
1920	1.07	.95	1.20	1.44	1.76	1.94	2.02	1.68	1.50	.84	.35	− .01
1921	− .58	− .88	−1.27	−1.25	−1.09	−1.14	−1.42	−1.16	−1.08	−1.09	−1.35	−1.44
1922	−1.66	−1.34	−1.25	−1.20	− .64	− .38	− .38	− .08	− .14	− .10	− .34	.10
1923	.52	.71	.69	.72	.98	.62	.20	.38	− .13	− .06	− .30	− .16
1924	− .14	.39	.01	.10	.24	− .12	.16	.36	− .01	.10		

Conclusion

The statistics of the two manufacturing enterprises which have been studied in this article are probably typical of the series, which might be analyzed, for other manufacturers. Our discussion has served to illustrate both the simple and direct statistical comparisons which can be made without subjecting the data to lengthy computations, and those comparisons made effective only after such computations. Elaborate statistical analysis was not desirable in the case of the flooring manufacturer; but its use (the elimination of seasonal fluctuations to throw into clear relief fluctuations due to cyclical influences) added to the accuracy of the picture showing the operations of the company manufacturing machinery and equipment.

Indeed we might list three groups of problems: those in which statistical refinements are possible and desirable, in order to facilitate examination of cyclical movements; those in which such refinements are inappropriate, but for which satisfactory interpretation of cyclical effects can be made; and those in which statistical refinements are impossible, and simple methods are also unavailing. For industries which find that the numerical measures of their business fall into the last class, little or no guidance in the determination of policies can be secured from statistical research. But industries which are so situated are probably few in number and are governed by unusual conditions. In the great number of typical cases an analysis which permits a comparison of the operations of the individual business with a general picture can be of assistance to the executive charged with the responsibility of determining policies for the future.

the first of which is the formation of groups or syndicates whose members

investigation yields material from which the circular is prepared, giving to th-

A COMPARISON OF BRITISH AND AMERICAN PRACTICE IN ISSUING INVESTMENT SECURITIES

By T. H. McKITTRICK

WHEREVER banks or bankers may be engaged in distributing securities, their economic object is the same. They act as intermediaries between the lender or investor and the borrower, supplying to the former an advantageous employment for his capital and to the latter the capital which he needs. It is by their skill and application in doing this and in assuming the risks involved that those engaged in issuing securities fulfil their economic function and earn their profits. This general statement holds true for all classes of securities and in all countries, although the diverse conditions and customs of individual markets have led to varying methods of reaching this end. It may be said with almost the same absence of qualification that any operation of placing new securities among investors can, at least for the purpose of this article, be considered a purchase and sale. The issuing banks or bankers buy an issue of bonds, for example, from the borrower and sell them to the investing public at an advance in price which should yield a reasonable profit. Such is the form of the two operations described in this article for the purpose of comparing the methods employed in the United States and in Great Britain for issuing investment securities of the safer sort. It should be borne in mind that there are many financial terms which are used with different meanings in London and New York. Unless clearly stated otherwise, the American sense is to be given to such words, and expressions such as "in this country" refer to the United States.

When anything of lasting value is purchased, there is a risk of price fluctuation to be borne by the purchaser during the period before it is sold; and with security issues this risk is often greater than the house which negotiates an original purchase cares to undertake. It is usually the case also that prompt and effective distribution of an issue among investors requires greater placing power than any single house commands. To meet these difficulties the obvious course for the original buyers is to associate with one or more other houses for the purpose of making a public offering. Each house takes a fixed share of the risk and lends to the success of the undertaking its ability to find buyers for the security offered; it is paid for so doing by a share of the profits proportionate to its participation in the risk and to its sales. The details of making security issues are not fixed. They vary with the view of issuing houses, the condition of the investment market, and the size and character of the security offered. In what follows I shall seek to compare typical American and English operations, mentioning only a few of the more usual alternatives.

I

The general plan of issuing securities in America presents two characteristics,

the purchase and banking groups many additional houses, widely scattered geo-

ness. In any case the originating house still keeps the records, makes an-

the first of which is the formation of groups or syndicates whose members are banks and banking houses dealing in investment securities and participating in the risks and profits of the business in fixed proportions. There may be in a single issue as many as three or even more such groups which successively buy and sell the bonds in question. The second characteristic of American distribution is competitive selling by retail investment dealers. Such houses employ salesmen to discover and follow security buyers in order to maintain a ready market for the issues which they offer. It often happens that important investors are approached at one time by salesmen representing several different dealers and that these salesmen all offer the same security. On the other hand, some of the best-known financial houses do not employ retail salesmen, but when making new issues they invite retail distributers to join them in the offering so that competitive retail selling is typical and characteristic.

The first step leading toward a public offering of securities brings together the intending borrowers and issuing bankers to discuss the possibility of putting out a bond or stock in a form and at a price that will be of advantage to the borrower and attractive to investors. This meeting is followed by a painstaking investigation conducted by members of the bankers' organization, who satisfy themselves that the business of the borrowers is sound from all points of view—among others, assets, earnings, management, and economic position. Many of the proposals put forward to houses of issue do not progress beyond this point, because some of the factors which experience has shown to be necessary for continuing security to investors are usually lacking. But if not, such an investigation yields material from which the circular is prepared, giving to the prospective investor the terms of the security offered and all material facts as to the borrower's history and position.

It is only when the investigation is complete and the time of offering is at hand that a decision can be made as to the price at which an issue should be sold to the public and, therefore, as to the price the bankers can pay to the borrower; but during the course of the investigation conclusions are reached regarding the ease or difficulty with which the bonds in question can be distributed. Upon the judgment of the originating bankers in this matter depends their choice of other houses to be offered participations in the business at this stage. Names for a purchase group are selected for their financial strength, but at the same time distributing capacity is given great weight. Those who accept form with the originating house the purchase group.

II

The purchase group then proceeds to enlist additional selling capacity to help dispose of its issue and organizes a second group, often called the banking group, to take over the securities purchased at a slightly advanced price. Members of the first group commonly participate in the second, but their shares are much reduced to make room for the new members asked to join at this stage. Each is offered a participation of a definite amount, and the criterion of selection for this banking group is primarily selling ability.

The next step is to organize the selling syndicate which will buy the bonds from the banking group at a second small advance in price. This final group includes besides the members of

In selling syndicates members are frequently offered firm bonds equal to

above instance would, of course, be called upon only to the extent of his par-

the purchase and banking groups many additional houses, widely scattered geographically in order to reach all important markets. It is these members of the selling syndicate who supply the direct contact with the investing public through their bond salesmen and who carry out the retail distribution.

There are two distinct functions fulfilled by the selling syndicate—first, its members acting jointly buy a bond issue and the members individually assume the risk, usually limited to the amount of each member's participation, that the market may fluctuate or that the public reception of the bonds concerned has been misjudged; secondly, the syndicate members must sell the issue to their customers. These two functions are recognized in the division of commissions paid, a certain part being distributed to the members in proportion to their participations, that is, to their individual shares in the common risk; and the balance, usually the larger portion, is paid as a selling commission to members in proportion to their sales.

Another common method of distribution involves the formation of a selling group as distinct from a selling syndicate, these terms being here given their precise technical significance. In a selling group there is no commitment, and the only compensation paid to its members is a commission on sales.

The members of a selling syndicate or selling group carry on their retail sales, acting independently and competing against each other. As in any joint enterprise, certain rules of conduct have to be formulated with due regard for proper business principles. To this end selling syndicates or groups are organized with great formality and detail and are directed by a manager or managers. The manager is usually the house which originated the particular piece of business. In any case the originating house still keeps the records, makes announcements, and so forth, but in doing so acts with the consent and on behalf of the other participants. Sometimes the originating house does not feel itself strong enough to organize the distribution of an issue and brings the business proposed in its early stages to some larger concern, which then takes the position of manager with the understanding that the firm which introduced the business is to be repaid for so doing.

In offering participations in the selling syndicate or group the manager prescribes conditions, largely standardized, under which the securities may be sold, and the acceptance of such a participation carries with it agreement on the part of the participant to be bound by the selling terms. A contract, called a syndicate agreement, signed by the managers is mailed with a circular to prospective syndicate members, together with an unsigned copy to be executed and returned. The syndicate agreement sets forth the price at which the securities may be offered, the selling commissions which the syndicate will allow to participants, the commission which may be reallowed by participants to certain classes of buyers, a fixed time before which bonds are not to be offered. These restrictions have their origin in the keenly competitive selling methods employed by investment houses in America, combined with the desire to make certain that all syndicate members, who participate on equal terms, shall enjoy equally favorable conditions for their offerings to the public. The necessity for this is emphasized by the practice among American investors of dealing with several investment houses, all of which may well be included in any given syndicate.

upon the dealer whose name is omitted from the syndicate list, were it not that

tinue in existence for 60 days or more after its original offering is made, so

In selling syndicates members are frequently offered firm bonds equal to their participation. This means that they have an opportunity to accept not only the liability as expressed by their participation, but also an amount of bonds to sell equal to that participation. Usually houses must avail themselves of the latter within a definitely specified time. At other times syndicate managers offer to members a participation which does not carry with it firm bonds. In this event, if members accept the participation, they subscribe for the amount they desire—allotment being made for the subscription at the will of the syndicate manager after he has closed the subscription list. A third method commonly used by syndicate managers is to offer members a participation and firm bonds amounting to only a certain percentage of their participation.

The syndicate agreement further defines the rights and obligations of the managers toward the other syndicate members. The managers retain the right to call upon syndicate members to take up and pay for their participations at issue price less the selling commission "for carrying purposes" and to hold the bonds so received subject to the managers' direction. The managers may buy and sell bonds of the issue up to a stated percentage of the total for account of the syndicate, may extend its life, may dispose of any bonds remaining unsold at its expiration, and may alter the offering prices and commissions. Furthermore, the managers state that during the life of the syndicate, participants will, if called upon, repurchase from the managers at cost to the syndicate any bonds originally sold to them and later repurchased by the managers in the open market at or below the asking price. The participant in the above instance would, of course, be called upon only to the extent of his participation. The preceding paragraph will be clearer if it is borne in mind that all sales by syndicate members are reported to the syndicate managers in the names of the members who made them. There is an anomaly here. Although sales are made to private investors for syndicate account, the machinery of payment and delivery operates as if the syndicate members were buying the bonds each for himself. This peculiarity is due in the other cases to the natural desire of all houses engaged in such a highly competitive business not to disclose the names of their customers.

A syndicate, whose rules regulate the operations of members as described above, is commonly known as a "sell-out" syndicate or one in which liability of each member is limited to the extent of participation. Occasionally, however, syndicate members' liabilities are not so limited. In such a case if the syndicate is a complete or partial failure, participation may entail an obligation to share by purchasing the same ratio of unsold bonds that the members' original participation bore to the original issue.

There must be brought out one further point of significance for comparison with British practice. Syndicate agreements in this country ordinarily provide that a discount of ¼% or ½% from the offering price may be reallowed from the participant's selling commission to buyers of one or more of the following classes: dealers, banks, and insurance companies. The dealer who is not included in the selling syndicate or group can obtain on his sales only the small percentage which participants are permitted to reallow, while members of the syndicate receive more. This would appear to bear unfairly

upon the dealer whose name is omitted from the syndicate list, were it not that syndicate managers are always ready to welcome reputable houses into their syndicates as soon as they can show a consistent record of sales.

It is the natural desire of all issuing houses to have their offerings well received by investment dealers and by the ultimate purchasers; and, if this is to be the case, the price of securities brought out should not fall below the figure at which they were originally offered. Certain conditions, however, are often found whose combined effect would be to break the offering price if the managers did not exercise their prerogative to buy bonds for the account of the syndicate. It is inevitable, where investors are pressed by bond salesmen to buy and if necessary to sell other securities to provide the required funds, that certain purchasers will change their minds as soon as the salesman turns his back and offer the newly purchased bonds for sale again. It is customary also for dealers who feel confident of making sales to take from the syndicate bonds which they expect to need, so as not to find themselves unable to make deliveries, should the syndicate dispose of all its bonds and stop selling, and in order to have on hand a list from which their salesmen can sell between issues. Among many dealers there are always some whose expectations of sales are not fulfilled; and, where participations have been offered firm and dealers have been required to purchase bonds, the result is that there are always some houses with securities for sale and no buyers. These, together with the unwilling purchasers who have yielded to the persuasion of salesmen, constitute a menace to the market price of many issues. To meet this in a measure, it is customary for a selling syndicate to continue in existence for 60 days or more after its original offering is made, so that a measure of control may be maintained over syndicate participants to keep them from selling their securities at less than the issue price.

It oftentimes happens that, because of unexpected selling resistance, syndicate members find themselves unable to sell their firm bonds or they may have unwittingly sold bonds to those who have no intention of keeping them. These result in a floating supply of bonds which have not been securely placed. Recognizing this, the syndicate manager, if a retail distributer, continues, with the assistance of other syndicate members, to sell bonds of an issue even after the total original amount has been placed; and, as it is possible to do so, he takes back bonds from weak holders to fill these additional orders. This is commonly called secondary distribution and has a very important effect upon the ultimate placement of securities in real investors' hands and upon the character of the market for them.

Unlike the British method, bonds are quoted and dealt in on American markets usually "and interest," meaning that the purchaser pays to the seller, in addition to the agreed price for the principal amount of the bonds purchased, the amount of interest accrued thereon from the preceding date of interest payment to the day on which the bonds are paid for by the purchaser. New issues are also sold "and interest" and payment is called for some ten days or two weeks after an offering is made. In this way the buyer receives interest from the day on which he pays for his bonds. In exchange for payment he receives either definitive securities of the issuing company or temporary bearer certificates signed either by the bor-

rower or by the issuing house, exchangeable for definitive certificates as soon as prepared.

III

Turning now to the method followed in Great Britain to place securities, it must be clearly borne in mind that for a bank or financial house to approach possible customers through salesmen by direct solicitation would be considered undignified and contrary to the best traditions of the business. The attitude toward such practices is almost that of the professions in this country. It would seem almost as unbecoming for an English stock-broker of standing to employ salesmen as it would be for a lawyer or physician to do so in the United States. This means, in brief, that the selling of securities is not competitive in the same way as in this country—a fact of the first importance to an understanding of what follows.

The absence of retail competition in the American sense makes unnecessary the restrictions which are placed upon members of an American selling syndicate. Since a stock-broker goes only to his own clients, who are in most cases exclusively his, it is immaterial when he makes his approach. Nor is there reason to provide that he shall not pass on to his customers the *underwriting* commission where they are willing to accept the risk as well, and in fact this is very generally done. On the other hand, brokers are required not to part with their *selling* commissions.

There are further differences between the business of a retail distributer of securities in the United States and in Great Britain. In this country we have concerns variously known as bond-dealers, investment-brokers, and so forth, whose chief business is selling bonds and whose revenue is derived from the syndicate profits and selling commissions which they receive in connection with the issues offered by a smaller number of originating houses. Between these investment dealers and stock-brokers there is a distinction, although some houses are actively engaged in business of both sorts. Unlike American practice, in England they are one and the same; the stock-broker is also the distributer of investment securities.

The membership of an American selling syndicate consists primarily of retail bond houses, large and small, and a feeling exists generally that only such concerns as have an established clientèle and proved ability to place securities are entitled to the profits to be derived from syndicate participations, since they alone are in a position to discharge the obligation to sell which rests on all participants. The risk borne by these members of an American selling syndicate, or the purchase group where only a selling group is formed, corresponds to the risk taken by the underwriters of a British issue. With these latter, however, there is included another important class of underwriters, the investment companies (commonly known as investment trusts and trust companies, but not to be confused with American trust companies) and the insurance companies, whose sound practice is to decline to underwrite any security which they would not be willing to buy. In fact, a British issue is not considered well underwritten unless a fair proportion of the underwriting risk is taken by investors.

IV

In addition to the general points of difference, the mechanism of making an issue in England is wholly a thing apart from the American plan. New issues are offered as a matter of course for

ica an investor gives his order to a bond which fulfils so many uses simul-

subscription and are, if oversubscribed, allotted to subscribers approximately in proportion to the amounts applied for. Payment for a new issue is made in instalments, the first being required with the order, the second on allotment, and after that one or two others at intervals of a month or more. Orders—called applications—for securities of a new issue are made in writing on a printed form, of which one blank copy is enclosed in each circular. Since the first instalment of the purchase price is required with the subscription, the application forms are accompanied by checks. To obtain his selling commission a stock-broker merely stamps the name of his firm on the applications passing through his office, and this commission is payable to any recognized bank, banker, or broker, whether underwriters or not.

Preliminary negotiations leading to an agreement on the part of a borrower to sell an issue and on the part of bankers or brokers to buy it—or the equivalent, except in a legal sense, of underwriting its sale for a commission—are the same as in America; but once this point is past, things take a different course. In the first stage, however, it is not so usual in London as in America to invite other houses to take an interest in a purchase, although this practice is by no means unknown. Instead of making two or more successive sales in spreading the risk, a direct approach is made at once to a selected list of retail distributers both large and small, each of whom is offered a definite commission to underwrite, that is guarantee, the sale of a certain portion of the issue. There is no syndicate or group, and underwriters are relieved of their liability only when subscriptions cover the entire amount offered, regardless of whether they have sent in applications.

In certain cases underwriting is offered "firm"—that is, with the understanding that acceptance constitutes an order for all or a definite part, as the case may be, of the amount underwritten and that this order will be filled.

In the place of a syndicate agreement a very simple underwriting contract is mailed which the underwriter signs and returns. Along with this he sends an application for the same amount of the security that he has underwritten, attaching his check for the first instalment of the purchase price, but it is provided that no allotment will be made on this application nor will the check be deposited unless some part of the issue remains unsold after all applications have been filled. It is further stipulated, of course, that the underwriter is to receive his commission whether he is called upon to take up securities or not.

It is evident that the house which agrees to purchase an issue or underwrite the sale of one enters into a heavy risk for which it is naturally recompensed. However, there is an alternative method in use whereby a brokerage or issuing house may agree with a borrower to offer underwriting on the borrower's behalf in connection with a public issue of securities, but without taking any responsibility that the underwriting so offered will be accepted by the investing public. This eliminates the risk from the position of the originating house, whose compensation is consequently reduced to a fraction of what it would otherwise be.

Upon completion of the underwriting a public offering of the securities is made by advertisement and distribution of circulars and, if the expectations of those responsible for the issue are fulfilled, investors come forward and purchase the entire amount offered.

It will be remembered that in Amer-

is receiving subscriptions for it. All big

brokers, in the form of a commission on

ica an investor gives his order to a bond salesman, who in turn reports it to the house by which he is employed. The amount sold is then reported to the managers of the selling syndicate in the name of the concern whose salesman secured the order. The latter applies for the amount sold without revealing the name of the client. In Great Britain a stock-broker obtains the signature of his client to an application form, or even signs the form at attorney for his client, and sends on to the issuing house this paper bearing the name and address of his client, it being unthinkable that the house to which the application form is sent would seek to use this information for its own advantage. In the case of a successful issue, the subscription list is closed soon after it is opened, and as quickly as the applications—numbering thousands and often received in the course of an hour or two—can be reduced to order and the accompanying checks deposited, the available securities are allotted and allotment letters are mailed to subscribers. In cases of heavy oversubscriptions, where a proportional allotment to large and small subscribers would give only trifling amounts to the latter, their applications may be declined and the amounts of their checks returned with a printed letter of regret. It is not by any means always the case that new issues are oversubscribed, and in such cases there exists no means of making a sustained effort to reach investors. There is only one course possible, to allot to underwriters the portion not taken by the public, and this is not in any way an unusual occurrence.

V

Advice of allotment is given to applicants by a "letter of allotment," which fulfils so many uses simultaneously that it deserves further description. Its purpose is, first of all, to inform the subscriber of the amount of the security which has been allotted to him and of the amount due from him as the second instalment of the purchase price, except in cases where allotments are very small in relation to the amounts applied for and the check sent with the subscription covers the first two instalments, leaving a balance to be returned with the letter of allotment. This document is also a receipt for instalments and is first issued as partly paid but spaces are provided to serve as receipts for subsequent payments, so that during its life one such letter may be, for example, successively 5%, 35%, 65%, and fully paid, as the instalments are sucessively met. On production of information satisfactory to the London Stock Exchange, permission is granted to deal in newly issued securities as soon as allotment letters have been mailed, and the allotment letters themselves are delivered to buyers of such securities. The letter bears on the reverse side a declaration to be signed, when transferred, by the person to whom it is issued, much as stock certificates are endorsed in America. Ultimately fully paid letters of allotment are exchanged for definitive securities, but it is usually provided as well that they may be exchanged either partly or fully paid for temporary scrip in bearer form in order to facilitate the purchase and sale of the security which they represent. The wording of this versatile document is that of a letter addressed to the subscriber. It usually carries coupons separated from the text of the letter by perforation. These are detached as the instalments are paid, to be used in the office work of the issuing house or of the bank, which may be and frequently

is receiving subscriptions for it. All big London banks have special departments to do this work.

VI

A further marked difference between England and America is found in the way the English market for a security acts after its issue, and this is not easy to explain except as the result of a number of factors, some of them rather obscure. The outstanding fact is that when an issue of securities has been sold, either wholly to the investing public or even partly to the underwriters, it is not again offered for sale by those who have bought it, so as to affect its market price, in the same way that it would be in America. In England investors apply for a new offering only when they want to keep it at least for a reasonable time.

A second factor is that a very much larger part of all British issues which present the requisite degree of safety is bought by investors who, by the nature of their business, are permanent holders of securities in large amounts. They are not men in other lines of business, investing temporarily idle funds or profits which may be needed again in cash at any time and for any number of reasons, but trustees, insurance companies, and investment trusts, buying year in and year out and finding it hard at times to obtain enough securities of the kind they want. These investors not only take a large part of all high-grade issues and hold what they buy off the market, but also support quotations with big buying orders, for they often fail to obtain as large allotments as they want.

Some weight must be given also to the incentive which is put before dealers and brokers, in the form of a commission on sales, to buy securities for their own account. In America it is common for syndicates to allow 2% or more, while in Great Britain ½% is usually paid on high-grade investment issues.

Finally, and perhaps most important of all, there is evident in London, and in consequence everywhere in the British Isles, a degree of confidence in security values and prices which greatly surpasses any similar feeling in this country and which in turn has arisen from two causes. First, there are the professional investors—that is, the insurance and trust companies—who must always be buying and who are ever on the lookout for a sound security selling even slightly below the right price, and there is surprising unanimity of judgment as to the right price at any given moment. The second factor making for stability in security prices is the presence of "jobbers" on the Stock Exchange, who are officially recognized as traders for their own account and whose business depends upon their ability to maintain active and balanced markets for the securities in which they deal. The result of these conditions is that an underwriter, who has been called upon to take up some part of the amount for which he is obligated, does not feel that haste is required in ridding himself of those securities which he does not intend to hold. He knows that by forcing a sale he must accept a loss, but since he also knows that a slight concession below the right price will find a buyer, if he is patient, he naturally pursues the latter course. Further, let it be remembered that allotment letters in the period immediately following an issue are partly paid and, to the extent that this is so, the financial burden of carrying a security is decreased.

The customs tariffs differ materially, and their ability to buy may be gaged

THE DISTRIBUTION OF AMERICAN TEXTILES IN SOUTH AMERICA

By ERNST B. FILSINGER

TAKEN as a whole, the Continent of South America is the most important single foreign territory for the distribution of American textiles. The thirteen South-American countries, including the three Guianas, imported from the United States, in 1923, textile manufactures to the value of $36,537,384. Of this total, manufactures of cotton represented $29,302,428.

Three of the South-American republics are among the five political divisions which import the greatest quantity of American textiles. These are the Argentine Republic, Chile, and Colombia. They are exceeded in importance only by Cuba and the Philippine Islands. In both of the latter, American textiles enjoy preferential tariff treatment. It is significant that in countries like the three mentioned, where no preferential treatment is accorded American textiles, such progress should have been made, for while the competition of England, Italy, Spain, Belgium, Czechoslovakia, Switzerland, France (and latterly Japan) is particularly severe, there is likewise competition from the home industries which are in process of development in several of the republics.

The outstanding feature of textile distribution in South America is the marked difference between the various territorial divisions. South America, at least from the textile standpoint, cannot be regarded as a unit. The textile situation in Brazil is entirely different from that in the Argentine; in Chile it differs materially from that in Paraguay. Although they are neighbors, the conditions in Colombia are not identical with those in Venezuela. The cultural development of the several countries varies widely, as does their economic development. In Bolivia, for instance, a great part of the population is still of the "peon" class, with limited purchasing power. Here Indians are also an important element in the population and are a factor, likewise, in other countries such as Paraguay and Ecuador. In Uruguay and the Argentine, on the other hand, the situation is not the same; here the character of the inhabitants is different from that of the people in the northerly republics of the continent.

Factors Affecting Distribution of Textiles

There are many reasons why American textile distribution in the South-American countries cannot be treated as a single problem. The more important considerations to be taken into account may be summarized as follows:

1. The differences in the geographical location and configuration of the countries. Climatic contrasts are striking.
2. The variation in the economic wealth of the inhabitants of the thirteen territorial divisions. Thus, the per capita imports in the Argentine were (1922) $79.05 and in Paraguay (1921) $8.10.
3. Demand for textiles is affected by nationality, as well as by the cultural development of the people. The great Italian and Spanish population in the Argentine, for example, has a marked influence on demand.

4. The customs tariffs differ materially. They range from tariffs for revenue only to highly complicated ones designed for the protection of local manufacturers.

5. National industries are being developed and expanded in certain countries. This must be taken into account because of the ability of local mills to supply certain goods which previously had to be imported.

6. The varying stability of the monetary standards in the several republics. In some countries this lack of stability causes frequent and even constant fluctuations in the rate of exchange. On the contrary, in certain of the republics there is practically no fluctuation.

7. Business usages and customs, as they affect terms, must also be given consideration. There is a striking lack of uniformity in national wealth and a similar lack of uniformity in the ability of the local banks to finance the needs of commerce. Likewise, the dependence of several countries on but a limited number of agricultural products has a marked effect on the terms of payment demanded by importers.

Let us first give consideration to the geographical location and physical configuration of the South-American countries. The southern continent has a length of about 5,500 miles. Stretching from the equatorial region almost to the Antarctic zone, it offers the widest variety of climates. The physical configurations of the various territorial divisions are likewise notably varied. Colombia, with its mountain ranges and snow-covered peaks, may be contrasted with low-lying, tropical Paraguay; Chile, long and narrow (its greatest width is 250 miles), with a seacoast exceeding 2,700 miles, is unlike little Uruguay, a country of plains and grazing lands. The vast Republic of Brazil, larger than the United States, affords a striking contrast to Bolivia, a mountain republic in the interior of South America.

Next in importance is the economic and cultural condition of the people of the various divisions. The textile requirements of the different countries and their ability to buy may be gaged to some extent by contrasting the per capita purchasing power of Ecuador with that of Uruguay, or that of Colombia with the Argentine. It would, however, be a mistake, when studying American textiles distribution, not to take account of another factor, that is, the per capita importation of textiles from the United States only. In contrasting the less developed countries with those of a more complex civilization, the results are interesting. They show the ability of some of the countries with poorer populations to use relatively more textiles produced in the United States than some of the richer republics.

The nationality of the inhabitants is likewise a very important consideration. The fact that the number of Argentine citizens of Italian birth or descent is so great, is one reason that the importation of Italian textiles into the Argentine is large. French culture and influence on the South-American people is also noticeable.

TABLE I
PER CAPITA IMPORTS OF COTTON CLOTH INTO SOUTH AMERICAN REPUBLICS

Country	Population	Per Capita Imports (All Importations)	Per Capita Imports of Cotton Cloths from U. S., 1922
Argentine	8,462,000 (1922)	$79.05	.822
Bolivia	2,820,119 (1921)	10.51	.321
Brazil	30,553,509 (1922)	6.99	.026
Chile	3,754,723 (1922)	23.05	1.073
Colombia	5,847,491 (1922)	7.35	.828
Ecuador	20,000,000 (1921)	5.77	.442
Paraguay	1,000,000 (1921)	8.11	.256
Peru	4,500,000 (1922)	11.43	.363
Uruguay	1,450,000 (1921)	28.89	.378
Venezuela	2,411,952 (1921)	7.64	.276
British Guiana	300,000 (1923)	42.70	1.23
Dutch Guiana	100,000 (1923)	38.94	1.10
French Guiana	50,000 (1923)	58.54	.05

South America know very well the important part that tariffs play. As already stated they range from tariffs for revenue only to highly intricate ones, such as that of Brazil. In the latter case, the purpose has been expressly that of protecting the national industry. Even in the case of tariffs which are not absolutely prohibitive, they are sometimes so formulated that their effect is restrictive. Venezuela affords an example of this type of tariff. Latterly, an intense nationalism has developed in a number of South-American countries. It has found its expression in regulations requiring the marking of every piece of goods with the name of the country of origin and with its components, that is, the percentage of wool, cotton, silk, and other materials.

In recent years the textile manufacturing industry in South America has grown substantially. The greatest expansion has taken place in Brazil. This is, of course, due in part to the fact that in no other South-American country has cotton growing assumed the importance that it has in the Brazilian Republic. In Peru, where an excellent grade of cotton is produced, there is likewise considerable manufacturing. Although a large percentage of the textile production is still in the coarser grades, it is notable that fabrics made of finer yarns are assuming greater importance in the national output. Notwithstanding the development of this local industry, it is significant that there is a heavy importation of textiles into all the countries, including Brazil, where manufacturing is being carried on. Indeed, it is likely that the sales of certain American fabrics will steadily increase. Improvement in the economic situation of the masses of the people is creating new demands. Some of these are for fabrics which, not being produced at home, must be imported.

One of the most disturbing influences in the trade of a country is a fluctuating

TABLE II. IMPORTATIONS OF TEXTILES FROM ALL COUNTRIES INTO THE PRINCIPAL SOUTH-AMERICAN REPUBLICS

Country	Population	Classification	1922	Per Capita Imports of Textiles
Argentine	8,462,000	Textiles and Manufactures of	$79,986,278	$9.45
Bolivia	2,820,119	Cotton, Wool, Silk, Textiles, Cassimeres, Piece other than sold	5,379,121	1.907
Brazil	30,553,509	Cotton, Wool (mixed or not), Linen, Silk (mixed or not)	15,844,791	.512
Chile	3,754,723	Textiles	23,966,119	6.382
Colombia	5,847,491	Textiles	16,377,405*	2.80
Ecuador	2,000,000	Textiles	3,001,285†	1.50
Paraguay	1,000,000	Textiles and Dry-goods	2,754,209†	2.754
Peru	4,500,000	Cotton Textiles and Manufactures	7,143,364	1.587
Uruguay	1,450,000	Duck, Cotton, Cotton Piece Goods, Cassimeres, Wool, Silk Tissues, Cotton Flannel, Madras	1,942,939	1.34
Venezuela	2,411,952	Textiles, Canvas and Duck	2,906,376	1.204

* For 1919.
† For 1921.

exchange. Since the stability of the monetary system in the various South-American countries differs greatly, textile distribution has been correspondingly affected. In only one or two of the important textile importing divisions of South America, namely Colombia and Venezuela, has the exchange during the past four or five years shown no violent fluctuations. Even republics so highly developed as Argentine and Uruguay have suffered. In Chile, exchange fluctuations are practically continuous. In Ecuador, government control of the exchange became necessary and has only recently been discontinued.

The great need for capital and the resulting inability of many South-American countries to give adequate support to commercial operations obviously exercises an important influence on textile buying. Furthermore, many of the countries depend on one or two crops only. The result is a demand for long terms of credit. In considering the broader aspects of textile distribution this must be taken into account.

American textile interests which enter the South-American market must be prepared to meet formidable competition. This competition will come not only from other American houses but likewise from foreign firms, among them the manufacturers of England, Italy, Spain, Belgium, Czechoslovakia, and elsewhere; the adverse political and economic conditions which they have faced during the past few years will not continue indefinitely. The Japanese also have latterly played an important rôle, in gray drills and sheetings. They have made sales not only in the River Plate region and Chile, but Japanese drills have also been offered in the interior of Colombia. Knit goods of Japanese origin are also being sold in the South-American market.

Types of American Textile Exporters

American textiles are distributed in South America by firms which operate in different ways. The principal textile exporters may be briefly described as follows:

1. Dry-goods commission merchants in New York, who act as the direct sales representatives of mills and manufacturers. They make sales to foreign importers, wholesale or retail, according to circumstances.

2. Converters, that is, textile firms which buy gray goods, convert and sell them direct to merchants in South America.

3. Merchant or jobbing exporters, whose methods are similar to converters. They operate on their own account, sometimes buying gray goods and converting them. In other cases, they purchase such finished products as are suitable for the South-American markets, and distribute them. They have always dealt directly with the importer.

4. A relatively small number of mills or manufacturers who market their own products, and who have estab-

TABLE III. MILLS, SPINDLES, AND LOOMS IN SOUTH AMERICA

Country	Mills	Spindles	Looms
Argentine....	1923—42 (24 knitting 6 spinning 12 weaving)	50,000	2,500
Brazil.....	1921—242	1,700,000	58,000
Peru.....	1918—7 cotton 1 woolen	81,000	3,049
Colombia....	1914—9	20,000	941
Venezuela...	1917—4	19,000	500
Chile.....	1917—3 woolen 11 knitting	57,000	400

lished direct relations with foreign merchants.

5. Export commission houses. This type of concern formerly did most of the American textile business in Latin America. In some markets, Colombia, for example, export commission houses still transact a certain amount of the textile trade. Many of these firms use cotton goods brokers to place orders with suppliers.

In order to understand better the conditions under which the distributers described in the preceding paragraphs operate, an analysis of two countries may be helpful; the limits of space will not permit a detailed description of each of the South-American trade fields. Argentine and Colombia have been selected as typical of contrasting conditions.

ARGENTINE: Buenos Aires overshadows all the other cities in the Argentine Republic as a textile distributing center. Until a few years ago the textile trade was almost entirely in the hands of Italian, Spanish, German, English, French, and Argentine firms. However, within the past ten years, and notably during the last five or six, there has been a great influx of Levantine traders, that is, Turks, Syrians, Egyptians, Moroccans, and so forth, natives of the Near East, many of whom are under French protection. Today a large part of the textile trade is in the hands of merchants of this nationality. They are equally important in Brazil, Colombia, and elsewhere. In Argentine they transact probably 25% of the textile business.

In analyzing the rise of the Levantine merchants it must be remembered that they are clannish; they stick to each other, brother helping brother, cousin working with cousin and uncle with nephew. They operate at a very small profit, their chief aim being a large turnover. No serious attempt to increase sales in South America can be made without taking into account this

TABLE IV. UNITED STATES EXPORTS OF COTTON CLOTH AND COTTON MANUFACTURES TO SOUTH AMERICA

Countries of Destination	Cotton Cloth				Cotton Manufactures	
	1922		1923		1922	1923
	Square Yards	Value	Square Yards	Value		
South America:						
Argentine	40,601,600	$ 6,952,429	21,492,159	$ 4,143,246	$13,428,194	$10,956,905
Bolivia	8,019,683	905,010	5,272,434	716,476	960,179	772,658
Brazil	5,168,432	823,533	3,619,920	694,915	1,015,537	977,235
Chile	30,258,274	4,030,623	24,873,884	4,211,938	4,775,339	5,333,130
Colombia	34,666,469	4,800,014	22,914,033	3,555,602	5,765,011	4,727,496
Ecuador	6,752,340	884,235	4,950,536	750,191	1,038,116	898,951
British Guiana	3,042,340	370,168	522,300	92,425	434,054	156,844
Dutch Guiana	792,984	109,990	241,002	44,911	131,728	69,754
French Guiana	9,254	2,605	6,383	1,526	4,582	2,361
Peru	10,446,254	1,636,229	7,889,054	1,620,407	1,957,994	2,115,427
Paraguay	2,088,401	256,624	2,465,391	372,858	267,702	397,478
Uruguay	3,502,735	548,660	3,008,967	602,715	1,292,916	1,440,359
Venezuela	4,531,351	666,278	5,817,186	1,107,637	882,633	1,453,830
Total	149,880,117	$21,986,398	103,073,249	$17,914,847	$31,953,985	$29,302,428
Grand Total	335,032,670	$47,939,389	308,166,810	$51,703,336	$68,836,387	$78,237,650

important element. Many sorts of American textiles previously unsalable have been introduced into South America through the Levantine traders because of their ability to work at a small margin.

Argentine is a country of extremes: Buenos Aires is a miniature Paris; there is the same café life; the influence of Paris fashions is marked, and the desire of most classes to be smartly dressed is almost a mania. There is a large percentage of poor and a considerable number of rich people. The demand for textiles is consequently great. Specialization is characteristic of a country of such development as the Argentine, and the textile business is carried on by a large number of houses which devote themselves exclusively to this business. Many of the dealers occupy large warehouses and there are several firms whose buildings cover entire blocks. There are concerns which sell only hosiery or knit goods, others limit themselves to woolen goods; still others confine their efforts solely to cotton piece-goods. A number of establishments, notably English houses, are branches of Manchester firms, and some of the Italian dealers maintain offices in Milan. A substantial number of Buenos Aires importers have their own representatives in Paris and Manchester. Notable among these are the large Levantine concerns. Within the last few years several of the principal importers have established buying offices in New York. The patronage of the several hundred textile dealers is keenly competed for and local agents are maintained in Buenos Aires by the principal producers of England and the Continent. The number of local representatives of American houses has likewise increased.

It is the custom of many European firms as also of American houses to send at regular intervals travelers to work with their local agents. The traveler's duty is to post the local representatives on manufacturing conditions, policies, prices, and so on, to visit the trade in company with the agent and to keep him from going stale either with his house or with his customers. Buyers welcome the visit of the traveling representative, often preferring to talk over large deals with a representative direct from the mill.

Before the war, it was sometimes the custom of English and Italian houses to manufacture and consign to their agents textiles appropriate to the Argentine market to be sold for their account. This is again being done to a certain extent, especially by houses which have headquarters both in Manchester and Buenos Aires. This system likewise has been adopted by some American houses, although to a limited extent only. Obviously, it is done only after the market has been thoroughly tested and when there is no question as to the salability of the goods that are consigned.

Naturally, competition is keen and price is an all-important factor. Terms of payment likewise play a part. Many of the local importers are forced to finance their customers in the interior by granting them liberal terms of payment. Their cost of doing business is much higher than that of merchants who sell for cash or on short terms. It is for this reason that the Levantine traders have been able to make such a rapid headway.

COLOMBIA: There is a striking contrast between the physical geography of Argentine and Colombia. The former, with the exception of the extreme west, is flat. The latter, with its numerous mountain chains, deep val-

leys, and high plateaus, is the direct opposite. Colombia has but limited railroad facilities; altogether there are only 700 or 800 miles in operation. The chief avenue of transportation, until the recent installation of aeroplane service into the interior, was the Magdalena River. The commercial centers of the country are widely scattered, each serving practically only its surrounding territory. The two coast towns of Barranquilla, 50,000, and Cartagena, 32,000, are entrepôts for the interior. Bogota, the capital, is a seven- or eight-day journey from the coast (air service excepted). Medellin is the most important interior commercial center; it has a population of about 79,000. It is located in a district of growing importance. In the Pacific region is Cali (the port being Buenaventura). This is another enterprising place of about 45,000 inhabitants. As an illustration of the lack of communication may be cited Cucuta which is so difficult of access from a Colombian port that it is almost always canvassed from the Maracaibo region of Venezuela. In fact, the exports of coffee and other products of this region move via Venezuela. Bucaramanga and Manizales are other places of importance, but to Bucaramanga almost no foreign traveler ever goes. It is easy to understand that in a country such as this, traveling is costly, since it is accomplished largely on mule back over bad roads and under unfavorable climatic conditions. It is almost impossible for a textile representative in a town like Barranquilla on the coast or Medellin in the interior to visit all the other places with sufficient frequency to obtain satisfactory results; he would lose too much time and besides the expense is too heavy.

The chief characteristic of trading in Colombia is that much of it is done on a barter basis, that is to say, there is an exchange of finished products for raw material, coffee, and so forth. In striking contrast to the situation in the Argentine there was, until lately, very little specialization. The majority of merchants are general traders, handling goods ranging from hardware and machinery to textiles and wearing apparel, although in recent years, the number of houses which import dry-goods exclusively has grown. Credit is greatly needed by the importers of Colombia. In the first place, provision must be made for the heavy duty levied on textiles; secondly, there are considerable expenses for transportation, and so forth; besides, the importing merchant must grant long terms to his clients, consequently, he needs all the time that he can get; many of the dealers finance their clients in the interior practically from one coffee crop to another. The same principle is involved as that which necessitates financing of certain small cotton growers by the merchants in the southern part of the United States.

The conditions which prevail in the two republics of Argentine and Colombia exist to a greater or lesser degree in the other South-American trade divisions. They vary, of course. However, the outline given in preceding paragraphs may be taken as characteristic of the situation in general.

Recent Changes in American Selling Methods

In 1913 the number of American manufacturers who worked directly with foreign importers was very limited; a large majority of the business was done through the export commission houses. Today, however, the reverse is the case. This change which

has taken place during the last decade can be accounted for in different ways.

In the first place, the foreign importer has long been accustomed to buy textiles directly from European manufacturers; and, having been able to purchase directly from mills in England, Italy, Spain, and elsewhere, he sees no reason why he should not work in the same manner with the United States. He has also sought to avoid paying middlemen the buying commission, which varies between 1½% and 5%. In addition, there have often been extra charges of one sort or another. Many American fabrics offered to the South-American trade have been found salable if marketed on a competitive price basis. This the old method of trading did not permit. But there was still another reason for the change in trading methods. American manufacturers, converters, and exporting jobbers have learned a great deal about foreign markets within the last ten years; they have found through experience that they can safely sell to South-American importers even on a credit basis. Furthermore, American firms have come to realize that by opening direct relations with foreign markets they establish their trade on a permanent basis.

The experience of American textile concerns and of their European competitors in South America has proved the superiority of one method of selling textiles. It is the appointment of local representatives in the principal textile distributing centers where business is sought. The advantage of this system lies in having some one constantly on the ground to show samples, solicit orders, keep in touch with the buyers, make collections, furnish information regarding competitive lines, and so forth. The appointment of local representatives is supplemented by regular visits of traveling salesmen who may be called "territorial supervisors." These travelers are sent over the field once and sometimes twice a year. It often falls to their lot to appoint local representatives and sometimes they are called upon to make changes in agency arrangements. The duration of their stay in a market varies. In Buenos Aires, for instance, they may remain three to four months, in Uruguay, two to three weeks, in Chile, six weeks. It is not unusual for the traveler so to arrange his schedule that he may visit important trade centers twice a year, that is, for the two principal buying seasons. Local agents, as a rule, do not represent American houses exclusively; they are also representatives of European firms. As already pointed out, in most important markets specialization is highly developed and the textile representative as a rule handles only lines sold by textile or kindred manufacturers. In the smaller markets, this is by no means true; representation is much wider and one agent may represent perhaps 40 or 50 manufacturers of many kinds of articles. This makes even more necessary the periodical visit of the traveling representative of the American textile producers. In this connection one point may be emphasized: direct relations with local agents have proved preferable; subagents are usually not sufficiently active. This is due to the fact that where commissions must be divided between the general agent and his subagent, the loyalty and activity of the latter cannot always be counted on. It is better to establish individual territories and permit the agent to earn the full commission. Ordinarily, the commission is so small that it is inadequate for division.

Some American houses which are rep-

resented in the larger markets of South America have found it desirable to maintain their own employees on the ground. These are either on a salary basis, or salary and commission. Occasionally consignments are made to these representatives. Not infrequently, the local representative of this type also handles other territories, at least, in a supervisory capacity, making occasional trips of inspection.

Within late years advertising has assumed more importance than formerly. Mention might be made of the increase in sales of fabrics which have been advertised successfully in foreign markets, along lines similar to those used in the United States. One American manufacturer has distributed to the retailers of certain countries samples of his advertised fabrics, sales arrangements for which have been made with three or four leading importers in the chief distributing centers. This campaign was supplemented by placing advertisements in local newspapers, on billboards, street-cars, and so forth.

Intensive methods of sale and distribution along strictly modern lines, offer great possibilities for the future of American textiles in South America. So does advertising of appropriate fabrics, particularly the so-called "specialties."

A great American advantage is "mass" production. This is often successfully combined with foreign requirements, even in the case of "styled" fabrics. Hitherto, the principal American fabrics sold in South America have been in the heavier weights. These include drills, ducks, gray sheetings, osnaburgs, and so forth. Certain types of printed fabrics likewise have had a large sale, as have also Hollands, khakis, bleached goods, serges, voiles, and piece and yarn-dyed fabrics.

The Selling Terms

The most successful American firms which are doing the largest business in South-American countries have adapted themselves to local requirements as regards terms. Because of the conditions already outlined the terms required vary greatly. This is not alone true as a general proposition, but especially so in specific instances.

With certain merchants it is advisable, in fact, imperative, to deal on a strictly cash basis. This can, of course, best be done when a local representative is maintained; he can look after collections of drafts, and so forth. Orders are often placed against the guaranty of a cash deposit. In other cases, the terms read—"cash against documents." For some transactions letters of credit are established. Not infrequently, when the agent is responsible and of proved ability, his guaranty is accepted. By far the great bulk of the business, however, is done on longer credit terms. The ordinary terms are 60-90 or 120 days date, or the same periods at sight. Many American houses work on a basis of direct remittance at the end of a definite term. To a lesser extent than the English or Continental firms, American houses grant "open accounts." Under this arrangement, a merchant is able to buy goods and obtain, as a rule, a minimum of six months, and occasionally longer. Settlements are usually made at half-yearly intervals. Interest is reckoned from date of shipment until payment is received. The rate is 6% or 7%.

The benefit to a merchant who buys on this basis is that he can take advantage of a favorable rate of exchange and remit before the expiration of the term agreed upon, being credited with interest at the usual rate. Should

exchange prove steadily bad for several months, he is not under the compulsion of paying a draft drawn say at 90 or 120 days, because it has been accepted and matured. There is no doubt whatever that the matter of terms has been an important factor in the expansion of English and European textile trade in South America.

Other Factors Which Affect Textile Sales

Perhaps the most important factor of all in the distribution of American textiles in South America is the price of raw material. Statistics compiled by the Bureau of Foreign and Domestic Commerce at Washington indicate clearly that the differential between Manchester and New York prices for the same kind of goods becomes less in direct ratio to the reduction in the price of the raw material. With cotton at 20 cents, the ability of American firms to offer competitive prices is infinitely greater than when the raw material stands at 35 cents. No analysis of the textile trade situation in South America is complete without taking this interesting fact into account. At this time the sales of American textiles in the South-American countries are again increasing. This is in sharp distinction to the situation which prevailed in the early part of 1924. The present increase is undoubtedly accounted for, in large measure, by the lower price of cotton and the consequent more favorable quotations.

Within the past six or eight years many different kinds of American textiles have won the favor of South-American buyers. Nevertheless, there have been periods when their sale declined, generally due to causes beyond the control of American exporters. The high price of raw cotton was not alone to blame. Depreciated European currencies frequently made it possible to import substitutes for American fabrics at prices relatively lower than those asked for the latter. Furthermore, the high price of the American dollar, because of the depreciation of South-American currencies, also had an adverse effect. The tendency towards European stabilization and the improvement of South-American currencies is very promising for the sale of American textiles in South America. This is especially true in a country like the Argentine, where the peso tends to reach par at an early date.

In connection with the marketing of American textiles there is another interesting fact. So well known have American fabrics become that the trade terms such as 64x60, 68x72, 80x80 for constructions, and 3.00, 3.25, 3.50, and so forth for weights, are readily intelligible to many South-American dealers. The latter follow the New York market quotations and are among the first to recognize a favorable opportunity to make a purchase. Even the effect of the cotton crop reports issued by the American Government is perfectly clear to most importers and watched by them as carefully as by their fellow merchants in the United States. So much ground has been won by American textiles against world competition that it is easy to see why the outlook for the future is favorable. This is the case, not alone in countries in which, because of proximity, the United States has certain advantages in time of delivery, but in markets so distant as Argentine, Uruguay, and Chile.

PRICE-MAKING AND PRICE STABILITY

By A. M. SAKOLSKI

THE most fundamental economic problems of business and government relate to price regulation and price adjustment. The questions of competition and monopoly, of wages and living cost, of equitable wealth distribution, and many others of similar importance are but different phases of price queries and price manifestations. Methods of price-making, therefore, affect the interests of all classes of society and are of wide-spread significance in the formulation of economic and political policies.

I

Under a money economy exchange values, whether relating to goods or to services, are expressed in terms of price. In a specified market, at the same time, the same commodity or service of equal quality under like conditions cannot be sold or exchanged at materially different prices, if the buyers and sellers are uncontrolled and well informed. Because of this fundamental "economic axiom," we have the phenomenon of "market price," both on organized exchanges (such as the New York Stock Exchange and the Chicago Board of Trade) and, in the absence of designated market places, in the current quotations found in the press, trade papers, verbal reports, and the like. The farmer's wife usually knows each day the price of butter in her neighborhood though there is no "butter exchange," and, likewise, the banker or importer learns without difficulty current sterling exchange rates, even though he may be entirely ignorant of the forces which have combined to produce the market quotations.

In view of the importance of "market price" as an economic phenomenon, the causes and effects of price changes and the current methods of price-making call for constant and close study by all concerned in human welfare. In agriculture, industry, and commerce, there prevails a manifest tendency to create price uniformities and to promote price stability. The propensity toward monopoly in numerous trades and industries, which centuries of adverse legislation have been unable to eradicate, is a manifestation of this tendency. With monopoly repression there have been evolved such substitutes or subterfuges as "gentlemen's price agreements," "open price associations," "common selling agencies," "allotment of markets," and the like. The legal measures adopted to curb these practices have the same fundamental motive as the age-old injunctions against monopolies.

In view of the fact that price stability and price control are the aim (openly or secret) of producers and distributers operating under free competition, the methods by which these objects have been sought or obtained form an interesting and broad field of economic research. In many of the leading trades and industries time and custom have developed peculiar and specialized systems of adjusting and quoting prices of goods, commodities, and services. In some striking instances, such as in cotton and grain marketing and in securities, the methods employed are quite well known, but in many lines prevailing price systems find little notice out-

side of the specific industries concerned in the production, distribution, or purchase of the commodities in question.

II

Commonly used commodities of uniform and standard quality, the units of which are perfectly interchangeable, have their market prices in any locality determined either through transactions in a market place, such as an organized exchange, or through the general knowledge of sellers and buyers of the current conditions of demand and supply. There is no essential difference between the two types of markets. On organized exchanges the "bids" (demand) and the "offers" (supply) are registered openly, whereas, in the absence of a specific market place, the "bids" and "offers" are made privately and the registering is done individually. The cumulative effects of the interplay of the same forces are likely to produce a similar psychological reaction on individuals, so that buyers and sellers "sense" what should be the proper price level under the then prevailing conditions. They thereby create a "market."

The adaptability of certain commodities to open or organized exchange marketing requires both standard quality and uniformity of the units. To a far greater extent, however, it is dependent on the quantity and the availability of its production and the universality of its demand. In other words, there must be a relatively large number of buyers and sellers in active competition at the market place. If the producers can diminish or the consumers can increase the supply available at any one time on the market, or if either opposing group is able to withhold offerings or bids indefinitely, the "open" organized exchange ceases to function. It is for this reason that agricultural commodities, such as grain and cotton, which are produced in large quantities and by innumerable individuals and which, moreover, are prime economic necessities, have their prices registered on public, organized exchanges. On the other hand, such useful and standardized commodities as anthracite coal, iron ore, copper, petroleum, and cement, the effective supply of which may be controlled by few producers, have not developed organized market places, though they are widely bought and sold in large quantities.

Notwithstanding the economic advantages of the organized exchanges in furnishing continuous quotations for important articles of commerce, certain practical drawbacks arise from the constantly changing prices characteristic of organized exchange trading. Frequent fluctuations in raw-material prices lead to uncertainty of manufacturing costs. Accordingly, producers of the finished goods hesitate to enter into contracts either to purchase their supplies or to deliver their goods unless they can calculate within reasonable limits on their costs and profits. It is largely owing to this reason that certain practices have developed in connection with organized exchange dealings which aim to eliminate altogether or to shift the effects of price instability. "Future trading," "hedging," "short selling," "puts and calls," and other similar transactions, whatever may be their moral or economic effect, are fundamentally devices for stabilizing prices. The cotton manufacturer hedges his purchases of raw cotton so that during the interval required to produce and sell his goods, he will not incur a loss arising from a general price reduction of the finished product that follows lower raw

materials. The flour miller, in taking a contract to supply flour at a fixed price for future delivery, insures himself against changes in price of his raw material (wheat) by buying a "future" on the organized exchange. Such transactions, it should be noted, are for the purpose of avoiding speculation, though it is inevitable that speculation on the part of some one is involved. When the cotton manufacturer "hedges" his purchases of raw cotton, he does not eliminate speculation from the transaction. He merely shifts it to another party, just as fire risks are shifted to insurance companies without materially reducing the sum total of fire losses. In place of insurance companies, there is present on almost all organized exchanges a class of traders, who for purposes of profit assume the risks of price fluctuations. Regardless of the fact that they are looked upon as "gamblers" and "speculators" or "manipulators," they perform an essential function in the marketing of standardized commodities, particularly on organized exchanges.

Recognizing the economic necessity of future trading on commodity exchanges, within recent years legislation has been enacted to control and regulate and not to eliminate this practice. Congress in 1914 passed the Cotton Futures Act, which aims to abolish abuses that long had been prevalent in connection with exchange operations. More recently, a Grain Futures Act was enacted which provides for the supervision by the Secretary of Agriculture of the trading in grain futures on the Chicago Board of Trade and other grain exchanges in the United States. Though such legislation may correct some of the evils fostered on organized exchanges, it furnishes no assurance of further stabilizing prices or of even obtaining for producers a larger share of the market value of their output. Prices of grain and cotton will undoubtedly continue to fluctuate continuously, as long as nature is a controlling factor in the quantity produced and as long as no group of individuals can combine to effectively withhold or increase the marketable supply.

III

The market prices of standard graded commodities, which have no organized exchanges or other localized market places, are theoretically fixed through what economists term "the higgling of the market." Such prices, though more or less uniform in a specified market, are not subject to continuous and rapid changes. The price changes, however, though less frequent than exchange quotations, are likely to be more abrupt. If the price trends of such commodities are plotted on a graph, they usually exhibit flat tops, that is, plateaus, in contrast with the sawtooth formations characteristic of price movements of cotton, grain, coffee, and securities. One explanation of this contrast is that the price stability exhibited in the "flat tops" is frequently merely a record of *nominal quotations* and not the actual prices at which transactions are effected. It is quite common in many industries to market materials and goods under sales contracts applying to future deliveries. Thus, bituminous coal and iron ore are largely sold under contract arrangements not usually altered by current quotations. Notwithstanding this practice, however, it is undoubtedly true that the absence of an organized exchange for the sale of these commodities causes more abrupt though less frequent price fluctuations than would be the case were the sales transactions

effected continuously and openly on a public exchange. Crude petroleum is probably the best illustration. The relative price changes in this important commodity constitute more abrupt fluctuations than are ever experienced in wheat, cotton, coffee, or cattle.

The price changes in widely used and standardized commodities which are not dealt in on any specified exchange have been a fruitful source of complaints against monopoly, price agreements, and other forms of trade restraint. Coal, iron ore, copper, petroleum, timber, and cement have all run the gauntlet of such accusations. The underlying cause is due not so much to formal or secret arrangements among little buyers or sellers, as to the "follow the leader" policy necessarily adopted by competing producers or consumers of the same commodity. The "follow the leader" policy is peculiarly adapted to industries having relatively few important producers or a limited number of purchasers and consumers. If a large producer—for example, the United States Steel Corporation, the Standard Oil Company of New Jersey, or the National Lead Company—announces a price change, its output being sufficient to substantially meet the demands of the trade, other producers in the same line, in order to protect their business, must under normal conditions meet this competition. Small producers, on the other hand, may cut prices or, at certain times, may make higher quotations, without effecting corresponding price changes by large competitors. This is particularly true when both producers and purchasers are aware that the "piker" concern has an output insufficient to materially fill the consumptive requirements. Hence, this sort of price-cutting can be ignored by the trade. "Piker" profiteering is likewise an occasional phenomenon, since in periods of larger demand, it is the small producer who can ask and receive higher than the quoted prices. This situation developed in the steel industry in 1920. Because of the inability of the United States Steel Corporation and other large producers to fill current orders, the so-called "independents" were able to demand "premium" prices from consumers far above the quoted prices of their large competitors. When conditions were reversed, the small steel concerns accepted contracts at prices considerably below the quotations of the "leading interest." The latter took no effective measures to meet these cuts, since the small capacity of the price-cutters meant no substantial reduction to its business.

IV

A prime source of price stability of certain commodities sold under severe competitive conditions is the steadiness or inelasticity of consumption. It is a well-known fact that the consumption of some commodities having an expansive demand can be enlarged through price reductions, while the consumption or the use of commodities having an inelastic demand cannot be materially affected by price changes. Among the latter class of commodities are important articles of commerce, such as coal, salt, cement, and, to some extent, copper and petroleum. Anthracite coal is probably the best illustration. The difficulties and expense of storage, together with its limited use (it is used almost exclusively for domestic heating) lead to a close adjustment of output to an inelastic demand. Price changes, therefore, have had little effect on the amount consumed. Not many years ago in the anthracite industry, Mr. Samuel

Gowen, the president of the Philadelphia and Reading Railroad Company, failed utterly to dispose of the excessive anthracite output of his company by severe price-cutting at tidewater points. His attempt to keep down the production of competitors by offering them bounties in accordance with a scale of diminished output likewise failed to relieve the unfavorable price situation in the anthracite industry. Accordingly, his plan of producing coal in sufficient quantities to pay the interest charges on an extremely heavy investment of the Reading Company in undeveloped coal properties had to be abandoned. A receivership of the Reading corporation was the inevitable result. Since this time, anthracite prices have been comparatively stable, and, notwithstanding the wide-spread and frequent accusations of price agreements among the producers, the "follow the leader" system of price-making has continuously prevailed.

The portland cement industry furnishes another illustration of the "follow the leader" method of price-making. Unlike anthracite coal, however, the demand for cement fluctuates in accordance with building activity. The demand at any particular moment, however, cannot be materially stimulated through price reductions, because of the difficulties, risk, and expense of storage. A single producer may endeavor to increase his sales through a price reduction, but he will reap no permanent advantage, since other producers immediately meet the price cut and the general consumption of the product is not increased. Hence, it is customary for cement producers to quote a uniform net price to dealers in the same market. The economic situation with reference to cement prices was pointed out by Dr. T. S. Adams in his testimony at the trial of the members of the Cement Manufacturers' Protective Association, accused of maintaining prices by agreement. Dr. Adams showed, by reference to the price histories of a number of commodities, that price stability may be the result of balancing competitive forces which neither the producers nor consumers refrain from disturbing. If, through stress of competition or other causes, temporary price adjustments are required, the nominal or quoted price at times remains unchanged, but concessions may be granted through rebates, special discounts, or other favors and privileges. Freight rates have in the past afforded an illustration of these underhand practices. The making of railroad rates is an extremely delicate and complicated task. When rates have been once determined, both railroad officials and shippers are generally opposed to making changes even when warranted by altered conditions of trade or traffic —hence, the resort to secret rebates, special favors, discriminations, and other unfair practices in railroad charges. The history of the steel industry is also replete with periods of deviation from standard price quotations. Manufacturers receive "premiums" in times of acute shortage of products, or accept discounts under their market quotations during dull periods. Considerable secrecy prevails regarding such practices, since if they were widely known or advertised other producers would adopt the same measures and no advantage would be gained by those initiating them. The prime purpose of the formation of "open price associations" has been to eliminate the disturbances to price stability resulting from these underhand methods of price-making.

The general desire for standard price quotations has led to some interesting and peculiar methods of price-making.

In the pottery, glass, and hardware trades, for example, manufacturers use a uniform price-list. These lists, however, serve merely as a basis for making quotations. Price changes are effected through "discount" under or "premiums" above the "list price." Since competition among the producers of standard wares is severe, the "discount" and "premiums" themselves become uniform. Price-cutting in this industry accordingly has taken the form of special delivery privileges, packing allowances, freight rate absorptions, and other similar subterfuges to avoid the appearance of actual reductions from quoted prices.

It is quite manifest that in recent years, producers in many industries have endeavored to promote greater price stability. Some of the methods used to effect this object, such as the "open price associations," "Gary dinners," market-zoning, pooling of orders, and so forth, have been declared illegal and in restraint of trade. Whatever may be the legal aspects of the problem, however, it is evident to all who have studied the perplexities of fair price adjustments that price stability in the case of standardized commodities sold under free competition is essential to general economic and industrial progress.

BUDGET SALES QUOTAS: A PROBLEM AND SUGGESTED SOLUTION

By JOSEPH H. BARBER

SALES quotas are now generally conceded to be "desirable." Yet, openly as he may admit their merits, a sales manager often defers the establishment of adequate quotas for his salesmen, because much of the publicity favoring quotas is confusing. Often, too, the manager frankly admits that he is no expert mathematician.

We shall clear the atmosphere somewhat if we realize that no sales quota should exist without a purpose. In fact, the purpose should define the type of quota suitable in a particular case. If it is desired only to stimulate the men to greater effort, the "salesman's task quota" may be utilized. Here, the salesman sets his own task, in a sense bets against himself; or, the sales manager may adjust the salesman's own estimate to allow for known weaknesses, since one salesman may work best when the mark is just out of reach, another when he can register a wide margin of success beyond the set task. In any quota, the psychological reaction on the part of the salesman cannot be overlooked.

If it is desired to measure performance against standard, the "sales potential quota" may serve well. Here, the performance of the best salesman, or of the best sales year, may be the mark to aim at. Or, again, the potential demand may be estimated territory by territory, and sales progress measured in terms of the potential volume of sales that ought to be attained.

Neither of these two types, however, seems to make sufficient allowance for the fact that business does not move in a continuous, steady flow, nor even in a straight line of normal growth. Sales vary, and, in some years, sales in excess of the previous year simply cannot be attained. With the growth of the budget idea, the sales quota has become more than the older conception of a sales quota: it is an estimate of the sales that are to be, not an abstract calculation of what ought to be, nor what, sometime in the future, may be. Today the sales quota is, in effect, a requisition for a certain volume of production in equal monthly lots. Today there is an insistent demand that the sales quota shall be a "budget quota." Nevertheless, the merits of the other quotas may be retained, in part at least, even though the quota be an extremely cautious estimate of real sales probabilities.

To continue the discussion in terms of generalities, however, only adds to the present confusion. Instead, let us assume that at the present time the greatest need in industry is for the budget-type sales quota that sets up probabilities rather than possibilities.

In order to trace the principles involved, to gain a clear conception of such definite methods as alone can give practical expression to principles, and to clothe the discussion with an atmosphere of reality, it is proposed to approach the whole matter as the sales manager himself must approach it, as a problem to be solved with certain data at hand and in the face of certain conditions. It is probable that his par-

TABLE I. MONTHLY SALES (ORDERS RECEIVED) FOR MARKO PRODUCTS
(In pounds)

Month	1919	1920	1921	1922	1923	1924
January	50,000	79,000	28,000	56,000	138,000	113,000
February	43,000	96,000	24,000	56,000	121,000	102,000
March	40,000	47,000	31,000	78,000	102,000	116,000
April	37,000	146,000	30,000	63,000	103,000	69,000
May	44,000	78,000	35,000	112,000	69,000	80,000
June	54,000	57,000	30,000	95,000	53,000	71,000
July	85,000	73,000	40,000	66,000	61,000	76,000
August	67,000	52,000	32,000	55,000	55,000	77,000
September	48,000	51,000	40,000	91,000	57,000	83,000
October	100,000	46,000	54,000	68,000	68,000	(90,000) (Est.)
November	62,000	33,000	48,000	55,000	53,000	(78,000) (Est.)
December	51,000	16,000	44,000	63,000	66,000	(78,000) (Est.)
Total for Year	681,000	774,000	436,000	858,000	946,000	(1,033,000) (Est.)

ticular problem will show little variation from the typical "case."

It is our experience, in meeting management problems which touch at many points upon complex detail, that to state the question clearly is in itself a fair start toward solution. It is seldom that such a statement fails to define the next step: What are the few vital facts that really control the conditions defined? The solution becomes yet more apparent when these facts are so arranged that the comparisons resulting can be only of those facts which have much in common.

If we are to state a problem, it is desirable that it be drawn from actual experience, but incidental factors must be brushed aside in order to assure illustration of principles only. To meet this requirement, the author necessarily extracts his actual material from the records of a large corporation. That is incidental. Therefore, so far as the problems of the smaller company really differ from those of the larger corporation, this problem is given the less complex setting of the smaller company. Again, it is incidental that more refined statistics will give more dependable results. Yet, the point of view, the underlying principles, the mental processes of solution, given concrete form in methods and tables, are well illustrated by simple arithmetic.

For obvious reasons we shall now speak in the third person. The facts stated, and their relations, are of actual experience. Amounts, where they pertain to our industry, are disguised. Territory lines and office locations are, of course, fictitious. But all the kernel is left.

SETTING THE 1925 SALES QUOTA FOR THE MARKHAM MANUFACTURING COMPANY

Scope of Company's Activities

The Markham Manufacturing Company produces and distributes the "Marko" line of brass goods for ordi-

TABLE II. ESTIMATED TOTAL OF BRASS GOODS SOLD IN NEW ENGLAND [1]

Based upon proportionate part of total annual purchasing power—probably spent upon brass goods of all kinds

	1919	1920	1921	1922	1923	1924
In thousands of pounds:	8,000	8,600	4,800	8,800	9,200	(9,500) (Est.)

nary steam, water, oil, and gas piping. The line includes valves of various designs, fittings, both screwed and flanged, and necessary appurtenances to complete installation of brass piping systems. These systems, of course, are installed in almost any type of structure, whether for residential, industrial, business, or public service purposes.

The factory is located in eastern Massachusetts, and has a rated capacity of 115,000 pounds per month output. Balance-of-stores cards properly take care of production control by item, as demand reflects itself upon the balance-of-stores records.

The company distributes its goods through sales offices which solicit and maintain jobber connections for ultimate distribution to users, who are largely local steamfitters, plumbers, and so forth. Due partly to burdensome freight costs on long-haul deliveries and to unfavorable competition in territories remote from home territory, its selling field is practically limited to the New England states. Therefore, there are sales offices to cover as many sales territories within New England. The breakdown of the sales territories follows the state lines, and the sales offices line up as follows:

Sales Office	Territory Covered
Portland	Maine
Manchester	New Hampshire and Vermont
Boston	Massachusetts
Providence	Rhode Island
Hartford	Connecticut

Desire to Establish Sales Quota for 1925

Because of the fortunate experiences of other concerns, the company feels it

[1] In one sense, this Table II estimate is the kernel in the problem in quota setting. In another sense, it is a separate problem in itself. At some time—by special research on the part of retained specialists or on the part of the company's own employees assigned to the special task—a company may well determine just what factors govern the share of prosperity or depression that tends to be allotted to its industry as a whole during the varying phases of a business cycle. It is obvious that, if an industry, such as the brass goods industry, can determine that there will be a certain number of dollars' worth of brass business out of every hundred thousand dollars' worth of building construction, that the average real estate transaction will involve repair work necessitating brass goods in a usual proportion, that the growth of literate population, well housed and conveniences, will assure a definite growth in brass-goods demand, other factors being equal, and so forth, as market factors can be established—then, it is possible to estimate, from the annual records of the varying factors, the probable share of business that is available each year to the brass-goods industry as a whole. Needless to repeat, the figures inserted here do not reveal discovered facts; they are necessarily made fictitious, but the table presented suggests clearly the necessary step in the procedure.

TABLE III. MARKO PRODUCTS' SHARE OF TOTAL BRASS GOODS SOLD

(In thousands of pounds)

Item	1919	1920	1921	1922	1923	1924
Estimated Total Sold (Table II).....	8,000	8,600	4,800	8,800	9,200	(9,500)
Marko Products Sold (Table I).....	681	774	436	858	946	(1,033)
Marko Products' Share of Total.....	8.5%	9.0%	9.1%	9.7%	10.3%	(11.0%) (Est.)

TABLE IV. MEASURES OF NEW ENGLAND'S INDUSTRIAL AND TRADE GROWTH

Year	Building Contracts Awarded (Number of Projects)*	Index of Real Estate Transactions (Number)†	Purchasing Power‡ (Value)¶	Index of§ Car Loadings of Merchandise (Based upon Quantity)	Index of N. E. Trade‖ (Based upon Value)¶
1919	11,776	63	$6,240,000,000	100	...
1920	10,569	85	7,355,000,000	104	113
1921	12,962	72	5,920,000,000	87	87
1922	18,319	83	6,075,000,000	100	90
1923	15,581	110	6,950,000,000	98	100
1924**	(12,500)	(114)	(7,000,000,000)	(107)	(103)

* F. W. Dodge Co.
† Babson Statistical Organization.
‡ Boston Federal Reserve District Bank Debits, outside Boston.
§ Boston Federal Reserve Bulletin.
‖ Standard Daily Trade Service.
¶ Since these figures are influenced by price changes, it must be realized that recent physical growth would be greater than is indicated by the value figures.
** 1924 totals estimated upon basis of returns for 7 or 8 months.

would be desirable to establish sales quotas not only for the company as a whole, but for each sales office.

For the company as a whole, the total quota broken down to monthly amounts should give the factory a fair schedule upon which to base initial production plans and forward purchasing schedules covering raw-material requirements. Furthermore, the factory should be in a better position to eliminate, partially at least, the usual seasonal variation in its production rates, thereby stabilizing employment.

On the other hand, the company feels that the manager of each sales territory should be in a position to stimulate his men by breaking down to individual quotas a well-planned territorial quota. When the requirement is placed upon the manager, he may, in turn, require a proportionate contribution toward the quota from each of the salesmen within his territory. It feels, also, that to stimulate the salesmen by setting a quota, it is essential that the salesman be able to check himself up frequently. That is, every month he should be able to check his actual business received against the quota assigned him.

The company has been manufacturing its line of goods for some years and is now fortunate in having back of it full post-war monthly records of its total orders received. The unit used is "number of pounds" sold and its monthly record shown in Table I.

Company's Proportion of Total New England Brass-Goods Business

Recently, the company became interested in trying to establish what proportion of the total available business it had been receiving. It was not possible nor necessary to attempt this comparison on a monthly basis, but it did try to get a picture of the total amount of its line of brass goods sold in the New England states by all brass distributers. It feels that there is a reasonable degree of accuracy in the figures given in Table II, representing total brass goods sold in New England in the years indicated.

Checking the Marko sales against these annual totals shows that its percentage of the total business has been increasing as given in Table III, on the opposite page.

Variations in Demand for Brass Goods

The company has come to feel that

its volume of business in any year will depend almost wholly upon the total volume of brass business done in New England in that year and, further, that the volume of total brass business to be done in any year depends, to a considerable extent, upon the general business health and upon the status of purchasing power of the community which consumes its goods. Therefore, it is coming to have a degree of respect for statistical figures which indicate the variations in business health and in purchasing power. It has gathered several statistical series which it thinks should give them a background for anticipating the probable volume of the coming year's total New England brass business. For many of these series it has the monthly postings, but the annual figures listed in Table IV, on the preceding page, give a general picture.

Territorial Distribution of Marko Business

The Markham Company for some time has compiled its charges to customers by the total of its several territories as well as by grand total. It has recently come to feel that the incoming "orders in physical units" should be tabulated also by territories because sales quotas and production plans can best be calculated from figures which represent consumer demand rather than producers' shipments. Despite the fact that such quantity orders figures are not yet available as a basis for establishing the territorial sales quotas, it still feels that any quota to be effective must be broken down by territorial units in order that each sales office may know exactly what amount of business its territory should yield.

Therefore, it has secured figures which indicate the territorial distribution of the kind of customer who would buy Marko products. Table V, below, shows several series, each of which seems to indicate an assortment of potential buyers of its line of brass goods. It is not certain that all series should be given equal weight in determining how its total sales quota, once it has been decided upon, should be distributed to the several territories. Lacking a better basis, however, it is assuming that each distribution index should have equal weight in determining what ratable share of the total anticipated 1925 business should come from each of the five territories.

The Problem

1. What should be the annual total quota for the Markham Company for 1925?
2. How should this quota be distributed over the 12 months of 1925? In other words, what proportion of the year's total

Table V. Measures of Distribution of the Kinds of Purchasing Power That Create Demand for Brass Goods

Sales Office	Territory	Literate Population	Manufactured Products	Wholesale Outlets	Bank Debits	Personal Income	Curtis Circulation	Truck Registrations
Portland....	Maine.....	601,000	$ 340,000	623	$ 580,000	$ 141,000	56,995	11,400
Manchester..	New Hampshire and Vermont.....	622,000	360,000	470	220,000	147,000	53,065	9,600
Boston.....	Massachusetts.....	2,960,000	2,849,000	6,182	18,960,000	1,376,000	255,219	68,500
Providence...	Rhode Island.....	452,000	517,000	688	1,640,000	189,000	28,674	11,600
Hartford....	Connecticut.....	1,020,000	836,000	1,166	2,390,000	414,000	85,875	24,800
Total of All Territories.....		5,655,000	$4,902,000	9,129	$23,790,000	$2,267,000	479,828	125,900

TABLE VI. GROWTH OF NEW ENGLAND ACTIVITIES SUSTAINING BRASS-GOODS INDUSTRIES

(Based upon each year's increase over its previous year. As calculated from Table IV data)

Year	Building Contracts Awarded	Real Estate Transactions	Purchasing Power	Car Loadings of Merchandise	New England Trade
1920	−10%	+35%	+18%	+ 4%	.....
1921	+23	−15	−19	−14	.....
1922	+41	+15	+ 3	+15	+ 4%
1923	−15	+33	+14	− 2	+11
1924 (Est.)	(−20)	(+ 4)	(+ 1)	(+ 9)	(+ 3)
Average Annual Growth..	+ 4%	+14%	+ 3%	+ 2%	+ 6%

business should be contributed during each month of the year?

3. What should be the annual quota for each of the five territories?

4. What should be each territory's 12 monthly quota amounts which would comprise the respective territory's annual quota?

SUGGESTED SOLUTION OF MARKHAM MANUFACTURING COMPANY'S 1925 SALE QUOTA PROBLEM

The Probable 1925 Total New England Brass Business

The first step is to determine what will be the probable status of trade in the general lines of business activity in 1925 that would result in expansion or contraction of purchasing power available for buying brass goods. Table VI, above, shows an attempt to derive from Table IV an indication of the average rate of annual growth and consequently an estimate for 1925.

Of course, it is obvious that the annual change in particular years varies greatly from the average. Consequently, in attempting to gage the probable 1924-1925 growth in each of the activities measured, the Table IV data are supplemented in most cases by monthly data which exhibit more definitely the current trend of growth or change, and the data are supplemented further by economic study and by personal inquiry of associates in the trade. In this way, the officers of the company feel that the estimates in the left column of Table VII, below, have a fair chance of materializing into fact.

In this table, in arriving at the average growth of all activities, an equal influence could have been given to each. Though there is no statistical confirmation that they should favor any one of the indexes more than others, there is, however, a natural feeling that the in-

TABLE VII. ANTICIPATED 1925 GROWTH OF SUSTAINING ACTIVITIES

Item	Assumed % Growth Over 1924*	Weighting	Product
Building Contracts Awarded.....	− 5%	×2	−10%
Real Estate.....	+ 8	×1	+ 8
Purchasing Power....	+10	×1	+10
Car Loadings.....	+12	×1	+12
New England Trade..	+10	×1	+10
	Totals	6	+30%

Average Territorial Growth to Be Anticipated between 1924 and 1925 = ... $\frac{+30\%}{6} = +5\%$

*At time of writing, these are but tentative estimates for 1925, based upon only a partial picture of 1924 actual record, and upon a preliminary assumption as to basic conditions and trends likely in 1925. They serve well enough, however, to illustrate the processes involved.

TABLE VIII. ANTICIPATED 1925 TOTAL DEMAND FOR ALL BRANDS OF BRASS GOODS

1924 Estimated total New England brass-goods business, from Table II	9,500,000 pounds
1925 Estimated growth in brass-goods business—assumed to be the same percentage as the growth estimated for the activities which sustain the brass-goods business—as calculated in Table VII	+5%
Consequent probable total brass-goods business for all brass-goods manufacturers in 1925	10,000,000 pounds

dicators of the building situation should be given a considerable influence. Accordingly, in striking an average for all lines, building is added in twice. This extra influence, together with the inclusion of real estate transactions, gives nearly one-half influence to the building situation.

Then, from Table II estimate of the probable 1924 total demand for all kinds of brass goods of all brands, we compute the probable 1925 amount of such business by applying the Table VII percentage increase over 1924 levels, as shown in Table VIII, at the top of the page.

Noting its gradually increasing share of the business and determining that this increase shall continue, the company has decided that it may justifiably expect 12% of all available brass business in 1925. Wherefore, it calculates

TABLE IX. ANTICIPATED 1925 TOTAL DEMAND FOR MARKO BRASS GOODS

Anticipated Total Demand (from Table VIII)	10,000,000 pounds
Share Marko Should Secure in 1925 (based on Table III)	12%
Marko's 1925 Share	1,200,000 pounds

the amount of its 1925 share from Table III, as shown in Table IX, above.

The Marko total annual quota for 1925, then, is authorized at 1,200,000 pounds.

The Monthly Distribution of 1925 Quota Sales

From the Table I figures the company has developed by a practical statistical method the seasonal distribution of the annual business in an average year as shown in Table X, below.

However, it feels that in 1925 the demand will develop heaviest in the first part of the year. Hence, it adjusts the average year's distribution to set up a tentative 1925 distribution by assuming that January will be about 10% above its average and that this accelerating influence in January will gradually give way during the year to a retardation of about 10% below average at the end of 1925. The adjustment

TABLE X. ROUGH CALCULATION OF SEASONAL DISTRIBUTION OF AVERAGE ANNUAL ORDERS

(In thousands of pounds—based upon Table I)

Item	Ave. Jan.	Ave. Feb.	Ave. Mar.	Ave. Apr.	Ave. May	Ave. June	Ave. July	Ave. Aug.	Ave. Sept.	Ave. Oct.	Ave. Nov.	Ave. Dec.	Average Annual Total
Average Monthly Orders (that is, 6 Januarys÷6)	77.3	73.7	69.0	74.7	69.7	60.0	66.8	56.3	61.7	71.0	54.8	53.0	788.0
Average Monthly Percentage Distribution to Months of Average Annual Total	9.8	9.4	8.8	9.5	8.8	7.6	8.5	7.1	7.8	9.0	7.0	6.7	100.0%

TABLE XI. ADJUSTMENT OF AVERAGE SEASONAL DISTRIBUTION TO ADAPT IT TO PROBABLE DISTRIBUTION ANTICIPATED DURING 1925

(Increasing Table X percentages in early part of year, and correspondingly decreasing them in latter part)

Item	Annual Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Table X — Average Monthly Distribution	100.0%	9.8%	9.4%	8.8%	9.5%	8.8%	7.6%	8.5%	7.1%	7.8%	9.0%	7.0%	6.7%
Approximate Percentage Adjustment Up or Down (to throw a more-than-usual proportion into early part of year)	.....	+11%	+9%	+7%	+5%	+3%	+1%	−1%	−3%	−5%	−7%	−9%	−11%
Monthly Distribution (adjusted for 1925 conditions)	100.0%	10.9%	10.2%	9.4%	9.9%	9.0%	7.7%	8.4%	6.8%	7.3%	8.3%	6.3%	5.8%
Consequent Breakdown of 1925 Annual Quota to Monthly Amounts (thousands of pounds)	1,200	131	122	113	119	108	92	101	82	88	99	76	69

to derive the tentative 1925 distribution is shown in Table XI, above.

Still, it feels that its own monthly figures should reveal a general trend which may be projected into the year 1925, thereby checking this tentative distribution.

First, in order to smooth out erratic month-by-month movements in the Table I figures, it took a five months' moving average as far as possible down to date, estimating the balance of 1924. From this five months' moving average of actual figures it constructed a "year ago" index of cycle trends as shown in Table XII, below.

Each percentage in Table XII means that in the year and month indicated the general tendency for business was to be that percentage over the same period in the previous year. While this comparison is not statistically precise, it has the effect of eliminating seasonal variations and, to a considerable degree, the growth element. In the resultant index, then, there is only an indication of the upward and downward swings of the business. When these percentage indexes are charted, they present a fairly smooth curve, which may be projected forward throughout the coming year with some assurance of probability.

Of course, the central or average level of such a curve in 1925 would necessarily show about the same percentage over 1924 as the 1925 annual total quota would show in percentage over 1924 annual total sales. Then there is one other limiting feature which partially determines how the "year ago" curve should be projected

TABLE XII. "YEAR AGO" INDEX OF MARKO SALES

(Indicating the trend tendency of current months to be a percentage better or worse than in the same period of the previous year)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
1920	....	....	+90	+75	+60	+42	+4	−21	−29	−40	−49	−62	+14%
1921	−61	−69	−67	−65	−59	−59	−43	−30	−16	+11	+40	+76	−44%
1922	+114	+131	+147	+171	+151	+134	+137	+91	+56	+51	+64	+58	+97%
1923	+56	+61	+32	+1	−12	−18	−34	−27	−17	−16	−16	−7	+10%
1924	−4	−9	−6	+1	+6	+11	+34	+39	+42	+43	....	....	(+9%) Est.

TABLE XIII. DISTRIBUTION OF ANNUAL QUOTA TO MONTHLY QUOTAS
(In pounds)

Month	By Adjusted Average Distribution Method (from Table XI)	By "Year Ago" Method (based upon projection of trend curve charted from Table XII)	Adopted Monthly Sales Quotas (average of two, rounded off)	Consequent Monthly Distribution of Adopted Monthly Sales Quotas
January	131,000	130,000	130,000	10.8%
February	122,000	125,000	125,000	10.4
March	113,000	120,000	115,000	9.6
April	119,000	115,000	115,000	9.6
May	108,000	120,000	115,000	9.6
June	92,000	100,000	95,000	7.9
July	101,000	100,000	100,000	8.3
August	82,000	80,000	80,000	6.7
September	88,000	90,000	90,000	7.5
October	99,000	85,000	90,000	7.5
November	76,000	70,000	75,000	6.3
December	69,000	65,000	70,000	5.8
Total	1,200,000	1,200,000	1,200,000	100.0%

through 1925—that is, account may be taken of the usual duration of booms of business during periods such as will be experienced in 1924 and 1925.

Having projected the curve forward, the monthly amounts are tentatively read off and the percentage for each month is applied to the actual sales amount in the same season in the previous year, 1924. This gives a rough monthly distribution of the annual total. The first trial to summate the 12 months did not give a total agreeing with the assumed total annual business, determined by Table IX. But it was possible to harmonize the monthly amounts derived from the "year ago" projection with this predetermined annual total. In Table XIII, the monthly distribution obtained in this way is compared with the monthly distribution obtained in Table XI. The results by the two methods are averaged to secure the final monthly distribution. This monthly distribution results in the monthly percentage contributions to total annual business as indicated in the final column.

Breakdown Total Annual Quota to Territorial Annual Quotas

From Table V, we calculate the per-

TABLE XIV. TERRITORIAL DISTRIBUTION OF BRASS-GOODS PURCHASING POWER
(Percentages based on amounts of Table V)

Territory	Literate Population	Manufactured Products	Wholesale Outlets	Bank Debits	Personal Income	Curtis Circulation	Truck Registration	Straight Average
Portland	11%	7%	7%	2%	6%	12%	9%	8%
Manchester	11	7	5	1	7	11	8	7
Boston	52	58	67	80	61	53	54	61
Providence	8	11	8	7	8	6	9	8
Hartford	18	17	13	10	18	18	20	16
Total	100%	100%	100%	100%	100%	100%	100%	100%

TABLE XV. TERRITORIAL DISTRIBUTION OF MARKO'S 1925 ANNUAL QUOTA

Item	Total	Portland	Manchester	Boston	Providence	Hartford
Marko's 1925 Annual Quota 1,200,000 (from Table XIII, in pounds)	1,200,000					
Territorial Distribution of Potential Marko Buyers (from Table XIV)	100%	8%	7%	61%	8%	16%
1925 Annual Total Quota (broken down by these ratios to Annual Territorial Quotas)	1,200,000	96,000	84,000	732,000	96,000	192,000

centage weighting of each territory with reference to total territories in Table XIV, on the opposite page.

As suggested in the discussion of Table V, it is thought justifiable to allow equal influence when taking the average of these distribution indexes. If there were some reasonable basis for doing so, it would be a small matter when averaging to allow extra influence to the most important or most reliable indexes. As it is, however, the straight averages shown in Table XIV are used in Table XV as the breakdown ratios for distributing the annual 1925 total quota to separate annual quotas for each of the five territories.

Monthly Breakdown of Territorial Annual Quotas

Lacking any definite basis for distinguishing between the several territories, the total annual business for each terri-

TABLE XVI. CALCULATION OF REQUISITE CONTRIBUTION FROM EACH TERRITORY EACH MONTH TO ASSURE ATTAINMENT OF MARKO'S TOTAL 1925 ANNUAL QUOTA

Month	Assuming Same Monthly Breakdown Ratios as for Total of All Territories (See Table XIII)	Sales Territory Assignments (in pounds)					Grand Total of All Territories (See Table XIII)
		Portland	Manchester	Boston	Providence	Hartford	
Annual Totals	*(100.0%)*	*96,000*	*84,000*	*732,000*	*96,000*	*192,000*	*1,200,000*
January	10.8	10,400	9,100	79,200	10,400	20,900	130,000
February	10.4	10,000	8,800	76,200	10,000	20,000	125,000
March	9.6	9,200	8,000	70,200	9,200	18,400	115,000
April	9.6	9,200	8,000	70,200	9,200	18,400	115,000
May	9.6	9,200	8,000	70,200	9,200	18,400	115,000
June	7.9	7,600	6,700	57,900	7,600	15,200	95,000
July	8.3	8,000	7,100	60,900	8,000	16,000	100,000
August	6.7	6,400	5,600	48,900	6,400	12,700	80,000
September	7.5	7,200	6,300	54,900	7,200	14,400	90,000
October	7.5	7,200	6,300	54,900	7,200	14,400	90,000
November	6.3	6,000	5,100	46,000	6,000	11,900	75,000
December	5.8	5,600	5,000	42,500	5,600	11,300	70,000

tory is broken down to monthly distribution by the ratios developed from the grand total quota given in Table XIII, on page 218. The breakdown process, and the consequent monthly allotment for each territory, shows in the final table.

Conclusion

In stating the problem, we might have added a question: "How shall the budget sales quota be sold to the salesman?"

That problem would require a full discussion by itself. The person best fitted by ability and experience to suggest the solution of that problem is the sales manager who has himself been convinced of the merits and the practical utility of the budget sales quota. To a man so qualified, the task of carrying out quota plans is not difficult. A contagious enthusiasm does not wait upon arguments. The salesmen's enthusiasm for a budget sales quota is caught, not taught.

But the utility of the down-to-earth budget sales quota, which speaks for itself throughout the illustration, is not limited to that quota alone. The sales quota is the root of the whole budget plan. Adequacy in operation of that plan depends on the sales quota. And the fruits are stabilized production, a steadier load upon works' facilities, calmly prepared purchasing schedules, leisurely negotiated current financing, a confident management and, most pleasing of all—yet thoroughly consistent—enhanced profits and better, steadier employment.

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THE DEPARTMENTS OF THE HARVARD BUSINESS REVIEW

The material in the Departments of the Review presented by the Student Editorial Board is chosen with regard to its interest to business executives and to the possibility of utilizing most effectively the resources at the command of the members of the Board.

The first Department, "Summaries of Business Research," comprises summaries of the results of the investigation of various business subjects. "Case Studies in Business," the second of these Departments, was suggested by one of the outstanding characteristics of the Graduate School of Business Administration, the case method of teaching. Case studies are based upon the actual experiences of business concerns; to avoid disclosure of confidential material, however, it is necessary to disguise the names of the concerns. The last of the Departments contains critical reviews and short descriptions of new books of interest to business men.

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SUMMARIES OF BUSINESS RESEARCH

A STUDY IN INVESTMENT VALUES OF INDUSTRIAL BONDS[1]

IN a former issue of the HARVARD BUSINESS REVIEW[2] there was presented in an article by A. S. Dewing the theory that the gross income received from any investment is made up of three separate elements. The first of these is pure interest, which is defined as a theoretical amount sufficient to attract capital to a supposedly riskless venture. The second element is compensation for the risk involved; a risk which can never be foretold with exactness, but must always be estimated. The allowance for this element, therefore, may be greater or less than necessary. There is also a residual third element, which is the final component of the yield; this last element is analogous to an entrepreneur's profit. It is stated that a shrewd investor can purchase a security in which the risk factor has been overestimated and thus secure an additional return similar to a pure business profit. An individual not so well versed in investment, however, may neglect to make a sufficient allowance for the chance of loss of his capital and thus fail to obtain the requisite compensation.

Developing this theory further in a subsequent article,[3] Mr. Dewing defines a *good* investment as one quite distinct from a *sound* investment. In common usage a good investment is often thought to be one in which the risk of loss is small. Mr. Dewing states that a speculative security may be a *good* investment, though not necessarily a *sound* one, when the money yield will give to the beneficiary a return greater than pure interest, after adjustment for loss. Conversely, a bad investment is not necessarily a speculative or risky one, it is merely one in which the investor obtains a negative business profit.

In order to throw some light on the practical application of this theory and to determine whether or not there has been a tendency to over- or underestimate the risk element, an investigation was made of the bonds issued during the last 10 years by industrial corporations. Because of the difficulty in obtaining data only issues greater than $100,000 were used. Bonds having a term of less than a year were not included, since these have the characteristics of commercial paper rather than of longer term investments. Bonds rather than stocks were chosen for two reasons: (1) the disbursements to the investor are regular and definitely established, and (2) the desire for speculative profit is not present to as great an extent as in the case of stocks, making it easier to split up the gross yield into the three elements referred to above. Bonds of industrial corporations rather than those of civil jurisdictions, railroads, or other public service corporations were chosen because as a class they are regarded as the least

[1] Adapted from a thesis by A. J. Friedlander, in the course in Corporation Finance, Harvard Graduate School of Business Administration.

[2] HARVARD BUSINESS REVIEW, Vol. I, p. 300. "The Elements of Investment Income."

[3] *Ibid.*, Vol. I, p. 454. "The Role of Economic Profits in the Return on Investments."

sound, and consequently their risks are most liable to be over- or under-estimated.[4]

In order to obtain conclusive results, this study was based upon as large and as typical a group of securities as possible. The records of all issues of industrial bonds distributed between January 1, 1914, and January 1, 1924, were secured from *The Commercial and Financial Chronicle*.[5] Prices of listed securities on or near December 31, 1923, were obtained from the lists of the various stock exchanges. For the unlisted issues the bids and offers of the *National Corporation Bond Summary* were utilized.

After omitting all issues for which the required information was not available, 1,131 issues remained. These were subdivided into two general classifications: short-time securities or notes, and long-time securities or bonds. An arbitrary distinction had to be made, since the name—bond or note—which appears on the face of the issue usually bears little significance. Two hundred and seventy-eight securities having maturities of between one and five years were considered as notes, while 853 securities with terms of six years or over were classed as bonds. It was felt that such a distinction was necessary, since the two types are usually floated for different reasons, secured by different assets and provisions, and purchased by different classes of investors for different purposes.

In order to determine the magnitude of the residual element representing the over- or under-estimation of the risk, it was necessary: (1) to determine the average issuing yield of the bonds, (2) to measure, and deduct therefrom, the yield equivalent of the losses incurred throughout the period, and (3) to determine and deduct the pure interest factor.

Measuring the Losses

The arithmetic averages of the yields at which the bonds and notes were issued are shown graphically in Chart I. The average issuing yield of the bonds throughout the period was 7.02%, while that of the notes was slightly higher, 7.06%.

It would be highly desirable to determine the average yield of all these issues at the end of the period if this were possible. In this manner the appreciation or depreciation of principal might be determined, thus indicating the extent of the investment risk involved. In calculating this yield, however, several difficulties were encountered; namely, (1) some of the issues matured or were called within the 10-year period; (2) other securities had depreciated in principal to such an extent that they yielded over 15%, making necessary the use of mathematical calculations; and (3) other issues were defaulted.

Seven bonds and 123 notes matured in this period. This difficulty was met in a necessarily arbitrary manner by considering the ultimate yields as being equal to those at which the securities were issued. For the 126 bonds and 72 notes that were redeemed before maturity the same procedure was followed. This neglected any premium accruing to the holder of such securi-

[4] Foreign securities would offer an equally fruitful field for such an investigation were it not for the disrupting influences of the Great War.

[5] Since none of the summaries of current bond offerings appearing in the various financial publications gave a sufficiently complete list, data concerning maturity and price of bonds issued were obtained from the weekly "News of Industrial and Miscellaneous Companies" section of *The Commercial and Financial Chronicle*.

ties. But since investors did not purchase the securities with the expectation that they would be called, it seems reasonable to consider these obligations as giving only the issuing yields. The error of neglecting the premium is on the side of conservatism. At the end of a period it was found that 13 bonds and 7 notes had depreciated in principal to such an extent that they yielded over 15%. No available bond tables could be utilized in determining their actual yields, and consequently their effect upon the group average had to be calculated in another way. Of the 13 bonds, 2 were selling at a price between 75 and 100, 5 between 50 and 75, and 6 between 35 and 50. Their average

Chart I

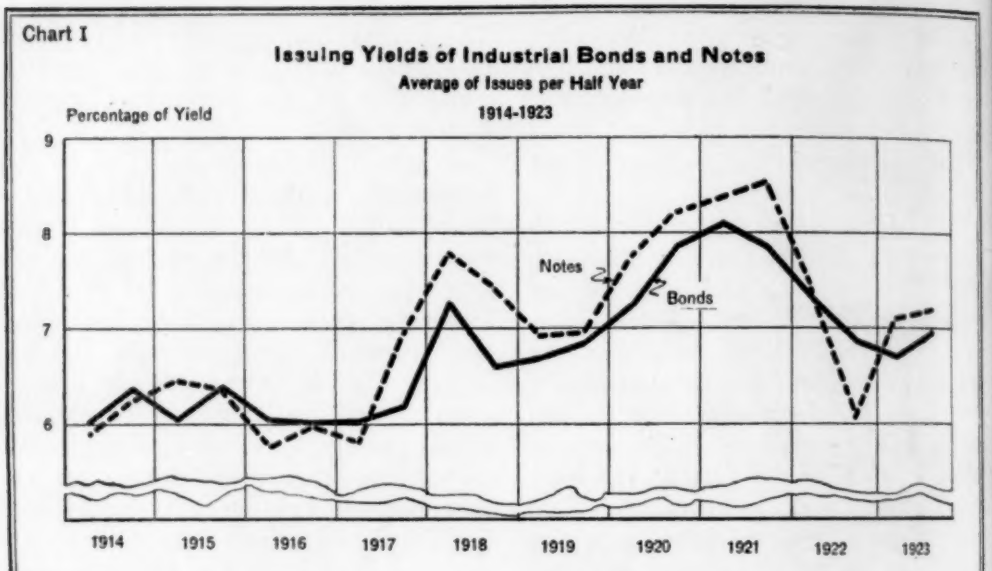
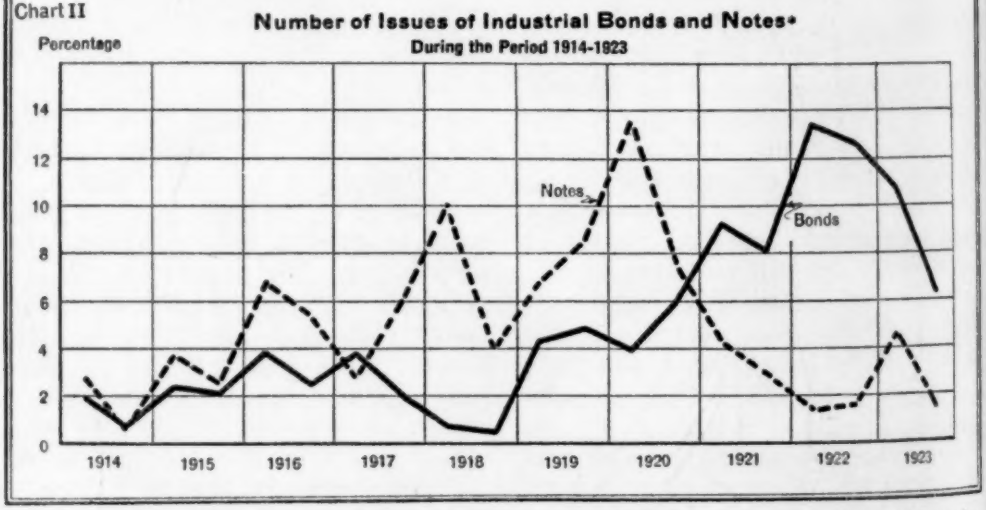


Chart II



* The number of issues of bonds floated each half-year is expressed as a percentage of the total number of issues of bonds for the 10-year period. Similarly, the number of issues of notes floated each half-year is expressed as a percentage of the total note issues for this period.

selling price was 50. They had been outstanding on the average 4.3 years. In other words, 50% of the principal had to be written off in that time, at the rate per bond of 8.6% a year. Since the 13 bonds were but 1.52% of the total number, each bond in the group had to bear an additional yield premium of only .2% to compensate for this element of loss.

The average price of the 7 notes yielding over 15% was 78, they were outstanding an average period of 4 years, and represented 2.5% of the total number. This gave a loss of .1% per year on each note in the entire group.

During the period considered 43 bonds and 26 notes had been defaulted. Of the defaulted bonds, 4 were quoted at over 75, 8 between 50 and 75, 16 between 25 and 50, 8 at less than 25, and for the remaining 7 no price could be found. This gave an average price of 42.5, which represented a loss in principal of 57.5% These prices were based on the 1923 quotations, which as a whole were lower than those at the time of default. It would be conservative to consider this entire loss of principal as having occurred between the time of issue and that of default, an average of 2.4 years. The average loss per bond per year, therefore, was 24%. Since the defaulted bonds were 5% of the total, the loss per year for each bond in the whole group required an additional compensation of 1.2%. Of the 26 defaulted notes the average price was only 18, the average time from issue to default was 2.4 years, and these notes made up 9.4% of the total. This loss, therefore, was equivalent to 3.2% per year for each note in the whole group.[6]

A further loss or gain in both bonds and notes was incurred through the depreciation or appreciation in principal of the securities not heretofore considered. The arithmetic average of the yields of all bonds outstanding December 31, 1923, selling below a 15% basis, was 7.25% (Table I) as compared with a yield of 7.02% at the time of issue. This difference in yield of .23% represents the additional loss through a decline in price of the bonds.

The average return for the balance of the notes, on the other hand, was 6.92% as compared with the average issuing yield of 7.06%, indicating that an appreciation in price had taken

TABLE I. DISTRIBUTION OF YIELDS OF INDUSTRIAL BONDS AND NOTES DECEMBER 31, 1923

Yields in Percentage	Bonds		Notes	
	Number	Percentage	Number	Percentage
Under 5	2	.2	4	1.4
5 - 5½	18	2.1	19	6.8
5½ - 6	38	4.5	20	7.2
6 - 6½	163	19.4	63	22.6
6½ - 7	130	15.2	22	7.9
7 - 7½	179	21.0	42	15.1
7½ - 8	116	13.6	37	13.3
8 - 8½	68	7.8	24	8.7
8½ - 9	30	3.5	8	2.9
9 - 9½	9	1.1	2	.7
9½ -10	9	1.1	..	....
10 -11	13	1.5	2	.7
11 -12	14	1.6	1	.4
12 -13	6	.7	..	....
13 -14	1	.1	..	....
14 -15	1	.1	.1	.4
15	....	....	1	.4
Over 15	13	1.5	7	2.5
Defaulted	43	5.0	26	9.4
Totals	853	100.0	278	100.0

Average yield of Bonds, excluding defaults and yields over 15%.....7.25%

Average yield of Notes, excluding defaults and yields over 15%.....6.92%

[6] That this loss is about 2½ times as great as the similar one for the bonds is not only because of the larger percentage of defaults, but also on account of their greater severity, as reflected in the lower average price.

place. Consequently, the difference in yield of .14% represented a reduction in the total amount of the losses previously considered.

From the foregoing calculations, the yield equivalent of the losses incurred throughout the period could be determined. In the case of the bonds it was equal to the sum of the loss on the bonds yielding over 15% (.2%), the loss on defaulted bonds (1.2%), and the loss on the remaining bonds through depreciation in principal (.23%), or a total loss of 1.63%.

In the case of the notes, the yield equivalent of the losses was equal to the sum of the loss on notes yielding over 15% (.1%), and that on defaulted notes (3.2%), minus the appreciation in principal (.14%) which gave a loss of 3.16%.

The Riskless Yield

From the issuing yield of the bonds (7.02%), the percentage (1.63%) representing the loss throughout the period was subtracted, giving 5.39%, the actual riskless yield of the bonds. The issuing yield of the notes was 7.06%, and the yield equivalent of the loss, 3.16%. The difference between these percentages gave a riskless yield on the notes of 3.90%.

Because of the confidence imposed by the general public in government securities, and the general recognition of their freedom from all elements of risk, it has been assumed that the yields of Liberty bonds indicate the pure, riskless, interest rate. Since these bonds were not in the market at the beginning of the period, and the United States Government bonds then outstanding commanded an artificially high market price from the national banks, an index covering the entire period could not be made up. The index of the yield of 10 prime railroad bonds used by the Harvard Committee on Economic Research, therefore, was selected.[7] This was weighted according to the number of issues in each half-year and a resulting average of about 4.75% obtained.[8] The spread between the yields on these bonds and the corresponding one on Liberty bonds was then determined to be about .45%.[9] The pure interest rate throughout the period, weighted according to the distribution as shown on Chart II, was approximately 4.3%.

Deducting this amount from the yield of 5.39% in the case of bonds gave a residual yield of 1.09%, indicating that these securities yielded a positive business profit of approximately 1% throughout the period. In the same manner, deducting the pure interest rate from 3.90% in the case of the notes, indicated that the risk was underestimated and a negative business profit of .4% resulted.

Conclusion

Some important and interesting conclusions may be drawn from the results of this investigation. Chart II, which shows the percentage of the total number of issues of each type of security floated each half-year, illustrates the effect of the business cycle upon the

[7] *Review of Economics Statistics*, V, p. 216.

[8] The average of the monthly figures for each six months was obtained and multiplied by the percentage of the total bonds issued in that period as shown by Chart II. The same procedure was followed for notes. The exact resultant average weighted gives an average of 4.76 for the bonds and 4.77 for the notes.

[9] The index for December, 1924, stood at 4.78%, at which time Liberties, except the 3½% issue with its tax-exempt privilege, were selling on a 4.25%-4.40% basis. (*Commercial and Financial Chronicle*—Quotation Supplement, January, 1924.)

type of securities issued by corporations. During the war period, for example, bonds and notes were used only to a limited extent. Investors desired speculative appreciation and willingly purchased common and preferred stocks. During the years 1918 to 1920, as production continued to increase, the companies needed additional funds for working capital to finance an increased volume of business at inflated prices. Money had become scarce and rates were rising, so that short-time notes became the common method of securing required additional capital.

As may be seen from Charts I and II the peak number of note issues came in the first half of 1920, just before the crisis, and at a time when interest rates, as reflected in the issuing yields, were approaching their highest point. The purchaser of these notes was doubtless affected by the boom spirit of the time. Prices were at unprecedented heights and profits were correspondingly large. The yields of the new issues seemed remarkably high. The general attitude was optimistic, for there appeared to be small chance of loss. This resulted in an underestimation of the risk element in these note issues. During the depression, defaults became numerous and losses were heavy. Because the risk had been underestimated, inadequate compensation for the real losses suffered had been included in the total yield. The result was a negative business profit to the investor.

On the other hand, before 1920, bonds were not used except by the financially weaker concerns and by large corporations engaged in industries requiring a considerable investment in fixed assets. During the depression, however, current assets were frozen and in most cases could not be liquidated at any price. Profits were nonexistent, and capital was needed to pay off the heavy floating indebtedness incurred during the period of prosperity. Many companies which previously had scarcely considered the use of funded debt were forced, as a last resort, to issue bonds.

At this time investors were pessimistic, becoming so conservative that they demanded a large compensation for risk, in order to protect themselves from loss. Under these circumstances even the strongest companies were forced to pay unusually high rates to attract necessary capital.[10] When the peak number of issues appeared in the first half of 1922, the average issuing yield was considerably over 7%, although interest rates started to fall in 1921. This was the result of the continuing demand for a high risk premium.

It is at such times that the best opportunity for a business profit to the investor arises. In boom times the general estimate of the risk element is substantially reduced and the estimates for poor issues tend to be narrowed down toward those for the higher grade of securities. The reverse is true in times of depression, for then not only is the general estimate of risk greatly enlarged, but the estimates on good issues, because of the universal pessimism and caution which prevails, tend to be almost as large as those on lower grade bonds. As shrewd investors realize this they will analyze the individual offers carefully and choose those in which the overestimation of risk seems to be greatest. The amount of this overestimation constitutes the true business profit.

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[10] For a discussion of the varying movements of the pure interest rate and the actual risk compensation during the cycle, see HARVARD BUSINESS REVIEW, Vol. II, No. 1, p. 1.

The result of this study of industrial bonds issued during the 10-year period indicated that there was a profit to the investor, since the largest number of issues appeared in 1921 and 1922, when a pessimistic attitude towards investments dominated. For notes, on the other hand, the largest percentage of the total number of issues appeared in early 1920, when the investor's optimistic attitude led to a general underestimation of risk, so that investment in notes resulted in a negative business profit.

CASE STUDIES IN BUSINESS

SELECTION OF CHANNELS OF DISTRIBUTION FOR ACCESSORY EQUIPMENT[1]

THE Alamac Company manufactures portable electric drills in sizes from one-quarter to one and one-quarter inches. At the inception of the business in 1907, distribution was sought primarily through mill supply wholesalers, and to a limited extent through general hardware wholesalers. With the rapid development of the automotive industries, wholesalers of automotive equipment were added to the Alamac Company's customers. By 1924 this latter group was taking 65% of the company's annual sales, which in 1923 had amounted to $2,500,000. Distribution had become national in scope and was secured through approximately 600 wholesalers of the types mentioned.

An important question of policy arose at this time as the result of a substantial number of requests for the Alamac line received from a recently developed group of wholesalers, who specialized primarily in replacement parts for automobiles. The Alamac Company never had granted exclusive agencies, but the management had consistently pursued a policy of confining distribution to the types of wholesalers best fitted to sell its product.

Alamac portable electric drills were made in 27 models ranging from 6 to 59 pounds in weight, and from $32 to $220 in price. They had an excellent reputation for dependability in use. The principal market was among small repair and machine-shops, automobile service stations, railroad repair shops, manufacturing plants, and retailers of automotive accessories who did some shop work in installing the articles of equipment which they sold to consumers.

Sales were made only to wholesalers. The average size order was $500, and the annual purchases of individual wholesalers ranged from $2,000 to $75,000. Wholesalers ordinarily sold only one or two drills at a time, except in the case of large industrial users, or repair shops which were installing complete new equipment.

The sales organization of the Alamac Company in the United States and Canada comprised 10 districts, each with an office and a district manager. The branch offices did not carry a stock of finished drills since they were maintained primarily for the purpose of supplying repair parts and of affording expert service. The company had in all 40 salesmen, including the district managers, the number varying from 1 to 5 for each sales district. In addition to this district sales organization, a small force of specialty salesmen was maintained in important industrial sections to call on manufacturers and other large industrial users. The

[1] "Accessory equipment includes the auxiliary or supplementary equipment of a plant, which is utilized to facilitate the operation of the major equipment, to aid in carrying on administrative and auxiliary services, and for the performance of miscellaneous tasks. Accessory equipment includes such items as time clocks and recorders, lockers, belts, production meters, small motors, cash registers, office furniture, filing cases, automobile trucks, factory trucks, tools, and other auxiliary appliances."—Melvin T. Copeland, *Principles of Merchandising*, p. 138.

orders taken by these salesmen, in all cases, were billed through wholesalers in accordance with the company's regular policy of protecting fully its wholesale distributers. This practice of granting the usual discount to wholesalers on orders from large industrial users was adhered to even in cases where competition made price concessions necessary for the purpose of obtaining such orders.

It was the company's experience that automotive equipment wholesalers were generally more aggressive and possessed greater initiative than other wholesalers who were distributing its product. It was estimated that there were from 1,200 to 1,400 wholesalers of automotive equipment in the United States, about 300 of whom handled the great bulk of the business. These 300, practically all of whom regularly carried Alamac drills, were so-called "full-line" automotive equipment wholesalers. They sold such items as bumpers, brake lining, horns, windshield wipers, windshield wings, spotlights, motometers, stop signals, shock absorbers, sun visors, snubbers, and in general, articles of external equipment which required little time or skill for attachment. In addition to Alamac portable electric drills, these wholesalers also sold other items of shop equipment, such as engine stands and hand tools. To a limited extent, also, they sold replacement parts such as piston rings, but usually these wholesalers made little effort to develop the replacement parts business because of the specialized knowledge and methods which that business required.

The result was that during the period from 1920 to 1924, there developed a distinct group of wholesalers who specialized in automobile replacement parts such as pistons, piston rings, transmission and differential gears, axles, and bearings. The ability to make immediate delivery of a needed part was of primary importance in this business. Many small repair shops, especially those in or near cities, carried no stock of parts, but depended upon securing immediate delivery from wholesalers in response to telephone orders. To be in a position to fill such orders, wholesalers had to carry large stocks of parts, including parts for car models dating back several years, and in many cases, parts for makes of cars that were no longer manufactured. These wholesalers had to have an intimate specialized knowledge of the parts business in order to keep stocks down to a safe figure, and at the same time to serve as many customers as possible. Ordinarily, these replacement parts all required expert labor for their installation, frequently involving the tearing down of some major unit, such as the engine, transmission, or differential.

Most automobile service stations, of course, carried a stock of repair parts, which they secured directly from manufacturers. Consequently, they were not prospective customers of the replacement parts wholesalers except in emergencies. It was estimated by a trade journal in 1923, that, in addition to the repair parts business handled by manufacturers selling directly to service stations, there were approximately 1,000 firms engaged primarily in the wholesaling of replacement parts. The annual sales volume of these firms amounted to approximately $200,000,000. It was wholesalers of this type who, in a number of instances, had approached the Alamac Company to secure permission to carry its line of portable electric drills.

The granting of agencies to these firms seemed to have certain advan-

tages. Although the Alamac Company had a strong position in its field, its competitors were active, and were beginning to make sales to the replacement parts wholesalers. Moreover, the Alamac Company was beginning to experience some difficulties with the large full-line automotive equipment wholesalers who were demanding extra discounts because of their large sales volume.

The management of the Alamac Company recognized that by selling to replacement parts wholesalers it would arouse the dissatisfaction of the full-line automotive equipment wholesalers. Many of this latter group were merchandising the Alamac product actively, and were making special efforts to show retail dealers how to increase their sales of such accessories as bumpers and shock absorbers by maintaining the necessary drills and other equipment to install these articles. The Alamac Company, furthermore, was an active member of the Automotive Equipment Association, which was made up of the leading equipment manufacturers and of the full-line automotive equipment wholesalers, but which did not include any wholesalers who specialized primarily in the sale of automobile replacement parts.

After careful deliberation the Alamac Company decided to maintain its present method of distribution. A consideration of the factors involved in the problem, with an estimate of the relative importance of each, follows:

The Market

Portable electric drills are purchased by three general classes of retailers in the automotive trade: (1) accessory and supply dealers, who do not make repairs, (2) service stations, which specialize in the repairing of only those cars which they sell, and (3) general repair shops, which repair all makes of cars.

Since accessory and supply retailers make no repairs, it is obvious that they buy drills for the purpose of installing accessories. On the other hand, service stations and general repair shops may use drills both in the installation of accessories and in the making of repairs. Accessories which ordinarily require drills for their installation include bumpers, horns, windshield wipers, stop signals, sun visors, snubbers, shock absorbers, and motometers. This indicates that there is no independent automotive market for electric drills, but that the demand is derived from the making of repairs, and from the installation of equipment other than that originally provided by the automobile manufacturer.

The question then arises as to the method by which this market for drills may be reached most effectively. The first class of retailers, the accessory and supply dealers, is now effectively reached by the full-line equipment wholesalers who handle drills as a necessary supplementary line. These dealers, since they do not handle repair parts, are not prospective customers of the replacement parts wholesalers at the present time.

The second class of retailers, the service stations, is also reached by the full-line equipment wholesalers from whom they purchase accessories and some shop equipment. These dealers purchase their repair parts primarily from the manufacturers whose automobiles they handle. For this reason they are not prospective customers of the replacement parts wholesalers, except for small emergency orders.

General repair shops have their most

frequent buying contacts with replacement parts wholesalers, for it is from these wholesalers that they must purchase repair parts. They also have some contacts, however, with the automotive equipment wholesalers who supply them with such articles as accessories, hand tools, and engine stands.

Drills, as well as the parts sold by the replacement parts wholesalers, are used in making repairs. Since the two lines of product are interrelated, it would appear that both could be handled effectively by the same distributers. It is necessary, however, to contrast the sales methods employed by this group of distributers with those of full-line accessory wholesalers who now form the chief outlet for the product to determine whether or not such a plan is practicable.

Sales Methods of Wholesalers

The business of replacement parts wholesalers has been built up to meet the demand of repair shops for immediate delivery on repair parts. These shops do not purchase an appreciable number of parts in advance because they cannot determine their requirements until the car which is to be repaired is actually in the shop, and it follows that a large proportion of purchases are made by telephone. Another effect of the inability of repair shops to anticipate requirements is that the use of salesmen by replacement parts wholesalers is restricted to infrequent good-will calls. Both of these facts indicate that the products now handled by this class of wholesale distributers do not lend themselves to aggressive selling. The replacement parts wholesaler must wait for his customers to take the initiative.

The sales methods of full-line equipment wholesalers are quite unlike those of replacement parts wholesalers, a situation which is the result of an inherent difference in the type of goods distributed by each. This difference may be attributed to two facts. The first of these is that the demand for accessories, since they are not necessities, is not immediate, as is the case with the demand for repair parts. The other is that usually different makes of cars do not require different styles of accessories, although they do require different types of repair parts. The demand for the products of equipment wholesalers, therefore, can be forecasted with a reasonable degree of accuracy, so that forward buying is done by retail dealers. This enables these wholesalers to use salesmen who make regular calls on dealers. The fact that forward buying is practiced, and that salesmen are regularly utilized, makes possible the use of aggressive sales methods, and in point of fact such methods have been and are now employed by the full-line automotive equipment wholesalers.

Type of Selling Required for Drills

It should next be considered which of the two types of selling just described is best adapted to electric drills. Since drills are required for most repair work, practically every repair shop is a potential buyer. Most of them now have at least a hand-drill. Electric drills are not, therefore, a necessity for them, but are rather a time- and labor-saving device. Consequently, aggressive selling will be required to induce them to supplant the old equipment. Shops which already have electric drills may require additional units, and those shops which have neither type should need at least one drill. But in all cases, aggressive selling must be

used to meet the competition of other drill manufacturers.

If aggressive sales methods could be employed by replacement parts wholesalers, it seems probable that they could reach all three classes of consumers. The nature of the product which they distribute, however, does not lend itself to this type of selling. If the aggressive selling of drills were undertaken, a separate sales organization would be required, but such a plan would not be feasible for this one product, particularly since it has no independent demand and because repeat orders are infrequent.

Aggressive selling is an essential factor in the distribution policy of full-line automotive equipment wholesalers. They are, therefore, best equipped to distribute this product. The accessory and supply retailers, and the service stations, already are being reached effectively by them. Furthermore, their sales organizations would need to be increased very little in order to direct more intensive effort on the repair shops since in many instances they are now selling them such articles as pistons, hand-tools, and engine stands.

Full-line automotive equipment wholesalers are specialty wholesalers.[2] Consequently, they tend to concentrate sales effort on selected lines of product. Alamac drills now are being sold aggressively by these wholesalers, and because of the protection afforded them by the Alamac Company, it may reasonably be expected that they will continue to push this line.

The fact that competitors are beginning to sell to replacement parts wholesalers should prove an advantage to the Alamac Company. By selling to this group, competitors will antagonize their full-line equipment wholesalers, and thus lose at least a part of their business. The Alamac Company should have a good opportunity to secure this business.

The agitation of the equipment wholesalers for larger discounts should have little influence in determining the distribution policy in this case. This situation would probably have been no different if the company were distributing through replacement parts wholesalers doing the same volume of business, because the problem arose essentially as a result of the large sales volume for drills attained by the equipment wholesalers following the year 1921. The important consideration is that equipment wholesalers afford the best outlets for the company's product.

It is advisable, therefore, for the company to meet the issue rather than to evade it by seeking other channels of distribution.

The decision of the company seems justified because the aggressive selling necessary for the merchandising of drills cannot be secured by using replacement parts wholesalers.

General Significance

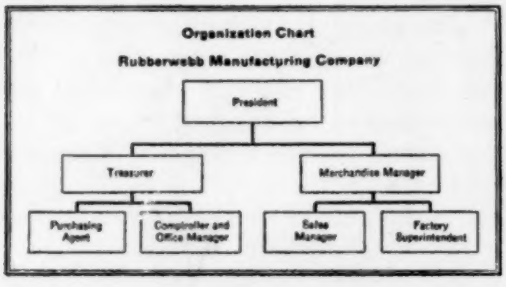
The distribution problem which confronted the Alamac Company is a typical one faced by many manufacturers of industrial goods. The analysis of this case discloses a principle of general significance; namely, that accessory equipment, unlike repair parts, requires aggressive selling for the full development of the demand, and consequently should be distributed through agencies which are adapted to the use of aggressive sales methods.

[2] A specialty wholesaler is one who specializes in the distribution of selected types of merchandise.

STATUS OF THE PURCHASING AGENT IN A MANUFACTURING ORGANIZATION

THE Rubberwebb Manufacturing Company produced rubber belting, garden hose, floor coverings, and other mechanical rubber merchandise. The plant was situated in Jersey City and the sales department and general offices were located in New York. In June, 1923, during a period of partial reorganization of personnel, the president appointed a new purchasing agent. After a few months' study of his job the new purchasing agent, who had previously had executive experience in production, recommended a change in the organization so that the purchasing department would function under the merchandise manager rather than in its former position under the treasurer.

In June, 1923, the organization chart of the company was as shown below:



The merchandise manager had the position usually called general manager. He was in charge of the plant in Jersey City and also of the sales office and sales personnel at the general offices in New York. His responsibilities included the supervision of production and the determination of the policies pertaining thereto, such as lines to be manufactured and the volume of output. He also directed distribution, which included advertising. In this way he controlled the quality and volume of materials to be used.

The treasurer had charge of finance, collections, and payments, of the clerical force of the New York office, and also of the purchasing both of office supplies and of raw materials and supplies for production. The nature of the raw materials made speculative purchasing possible and the company had been following a policy of this kind in buying a large part of its materials. The treasurer was required to plan his financial policy to meet commitments for materials bought. Because of his knowledge of financial conditions and needs, he had been entrusted with the job of determining when and to what extent to purchase materials.

The materials purchased each year consisted of $450,000 worth of rubber, $300,000 worth of cotton, 2,000 tons of coal, and miscellaneous items, amounting to a total of $1,200,000. The price of rubber was influenced by political conditions abroad, by international market conditions, and also by numerous comparatively unimportant factors of which the failure of a rubber distributer in Singapore is an example. Rubber, therefore, offered an opportunity for speculative buying. Cotton also presented a chance for either routine purchasing or speculative buying.

Although the company's speculative policy had in the main been confined to the purchase of those qualities of materials which could be used in production, purchasing was not restricted to forward buying for future production use only. The commodities bought might be held for future production needs or they might be resold at a later date. Occasionally, when prices seemed unusually

under whose authority each properly

avoid manufacturing losses, but the pol-

low, qualities which could not be used by the company were bought for resale. Just prior to the appointment of the new purchasing agent, such a purchase of rubber had been made and a rapid price decline had caused a substantial loss when the material was sold.

Previous to the coming of the new purchasing agent the treasurer's office had had neither adequate records of past production, a suitable tie-in with current production, nor a satisfactory perpetual inventory system. As a result, the new purchasing agent received from his predecessor several contracts for six months' supplies of materials of different kinds which had to be sold at a loss because the manufacture of the goods for which the commodities were intended had been discontinued.

The purchasing agent, therefore, drew up a perpetual inventory system for the storeroom and charted previous sales, purchases, and production, which he followed closely. He also determined a minimum for each material so that when the quantity in stock decreased to this amount, a purchase of the commodity could be made automatically. These minimums were based on experience in the plant and current knowledge of the time required for deliveries. In addition to this, the purchasing agent arranged that all customers' orders be reviewed by him before being sent to the factory. He believed that his duties included a responsibility for maintaining a supply of satisfactory materials adequate for production needs without allowing inventories to pile up higher than was absolutely necessary. He was responsible for determining what to purchase, where to purchase, and how much to pay for it. The factor of how much to buy beyond immediate needs he believed should be subject to control by either the treasurer or the merchandise manager of the company.

The question of changing the position of the purchasing department in the organization was brought before the president for decision. The merchandise manager could not be expected to follow financial conditions as closely as the treasurer. He had control of production primarily, and was concerned more with manufacturing at a profit than in watching changes in the raw materials markets. He was interested mainly in keeping stocks in the warehouse low in order to cut down carrying costs. He was required, however, to provide warehousing facilities for materials, and the storerooms, located in Jersey City, were under his control. Moreover, he decided policies such as the addition or discontinuance of lines, and thereby controlled the quality and volume of materials. On the other hand, the treasurer could not be expected to follow routine production and operating statistics, although the new perpetual inventory system provided a means of supervision of materials on hand. Nevertheless, his superior knowledge of financial conditions and international market factors enabled him to direct the purchasing policy of the company most effectively.

An Analysis

It is evident that the company was concerned with two distinctly different phases of purchasing; namely, (1) the speculative, which had to do with the buying of certain raw materials, and (2) the routine, which covered all other purchases of the plant. Different sets of conditions surround these phases and consequently the proper control for them differs. It is necessary, therefore, to examine them closely to determine

visability of placing the purchasing

Such an analysis leads to the final

under whose authority each properly belongs. The answer to the problem may then be found by striking a balance between the conflicting recommendations with due consideration for the ability of either system to perform the work normally belonging to the other.

Handling Speculative Buying

The nature of the product of this company has made speculative purchasing virtually a necessity. Rapid and wide fluctuations in the market price of the raw materials used, and the high percentage of materials cost to total cost make much of the profit or loss dependent upon the operations of the purchasing department. Consequently, speculative purchasing should be under the control of a major executive. The need for a knowledge of international market conditions and international exchange makes the treasurer of the company best fitted to handle speculative purchasing. Moreover, speculative buying involves tying up a large amount of capital, and the treasurer, through his control of the financial policy, is able to plan for the provision of adequate funds to meet commitments for materials bought. It is believed, therefore, that speculative purchasing should be controlled by the treasurer, because of his opportunity for intimate knowledge of financial requirements and of the international affairs which concern the industry.

There is one respect in which the present policy of the company is in error. Although the nature of the business dictates speculative buying, it does not follow that speculation should be extended to cover quantities and qualities not ordinarily used in production. Speculation in the form of forward buying for future needs is essential to avoid manufacturing losses, but the policy of forward buying should cease at this point and should not be expanded to cover other speculative operations. The company is organized primarily for the manufacture and sale of certain products, and while it may be necessary to undertake speculation in the form of forward buying to insure profitable manufacture, the further extension of speculation is leading the company away from the function for which it was formed and in which the major portion of its skill lies. The activities of the company should be confined to manufacturing, including of course the forward buying required, and pure speculation in commodities should be left to firms specifically organized for such a purpose.

Routine Purchasing

Routine purchasing, unlike speculative, requires a different system of control. In this type of buying it is the duty of the purchasing department to have "the right materials in the right place at the right time and at the right prices." This requires a careful study of production records to insure setting accurate maximum and minimum points in materials and supplies, and immediate revision of such points when changes in production requirements occur. It means close contact and cooperation with the production department in order that the purchasing department may be informed immediately of any changes in production schedules or lines of goods manufactured. Moreover, close contact with the production department enables the purchasing agent to follow up more quickly materials delayed in transit and to make more rapid application for allowances on damaged materials received. This would indicate the ad-

is somewhat unusual, several principles of general significance may be derived

should have direct control over routine purchasing for current requi-

visability of placing the purchasing agent under the merchandise manager to secure the necessary cooperation with the production department.

There are several other important advantages which may be obtained by making the purchasing agent responsible to the merchandise manager. The review of customers' orders may be accomplished with less delay when the purchasing agent is associated with the production department. Furthermore, if the purchasing agent is connected with the production division it should facilitate, through better and more frequent contacts, his efforts to obtain substitution of materials of grades other than those specified at times when the grades which he wishes to substitute are exceptionally low in price or can be more easily obtained. In this connection it is important to consider the psychological effect of having the purchasing agent a part of the production department. Suggestions are more readily interchanged and cooperation more easily obtained between members of the same department than between members of different departments. Consequently, it appears advisable that in the case of routine purchasing the purchasing agent be placed under the authority of the merchandise manager.

Securing a Workable Combination

It becomes apparent from the above analysis that the needs of speculative purchasing would tend to place the purchasing agent under the treasurer, whereas, the needs of routine purchasing require that he be placed under the merchandise manager. A solution, therefore, can be arrived at only by determining which plan is best qualified to handle the duties properly belonging to the other.

Such an analysis leads to the final conclusion that the purchasing agent should be placed under the merchandise manager. The problems arising in connection with routine purchasing are manifold and occur every day. Constant contact must be maintained between the department handling routine purchasing and the production department in order to promote the fullest cooperation, and to secure the necessary interchange of information. This will also aid in preventing friction. On the other hand, the problems arising in connection with speculative purchasing are few in number and occur infrequently. They do not require instantaneous action. Moreover, it would be simple to arrange for reports from the merchandise manager or the purchasing agent to the treasurer when ever desired by the latter. These reports would show the qualities and quantities of materials required for future production schedules.

Under this arrangement the responsibility of the production department ends with the estimates of qualities and quantities of materials needed for future use, and the treasurer alone is responsible for the speculative purchase of these materials at such times as he considers market conditions suitable for speculation. Most of the advantages of control by the treasurer over speculative purchasing are retained while at the same time the company receives the benefits arising from control of routine purchasing by the chief production executive. It becomes evident, therefore, that the recommendation of the purchasing agent was a sound one.

General Significance

Although the organization of the Rubberwebb Manufacturing Company

ceive goods that are mechanically imperfect, the production department, their designers had often specified tolerances which were more accurate

is somewhat unusual, several principles of general significance may be derived from this case. The first of these is that buying of a speculative nature which is necessary in certain industries, because of the rapid movements of their raw material markets coupled with a high ratio of raw material costs to total costs, should be under the control of a major executive who is in a position, not only to know market conditions, but also to be thoroughly familiar with the financial policy and program of the firm. The second is that the official in charge of production should have direct control over routine purchasing for current requirements, because this is a function of production. Where the head of the finance department happens to be in charge of manufacturing no problem of this kind arises. Where finance and production are handled by different persons, however, an arrangement of the type suggested above should be adopted, the degree of supervision exercised by the treasurer being determined by the circumstances surrounding speculative buying in the particular business in question.

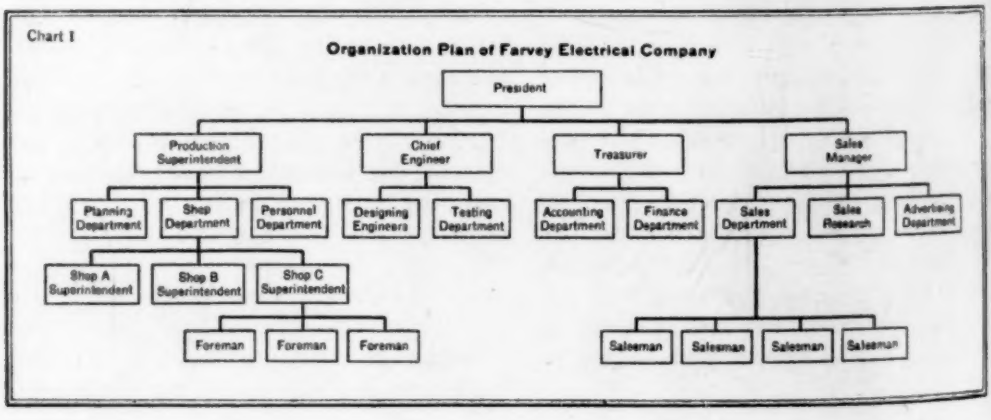
POSITION OF THE INSPECTION DEPARTMENT IN AN ORGANIZATION MANUFACTURING ELECTRICAL GOODS

THE Farvey Electrical Company is engaged in the manufacture of electrical goods of high quality. The volume, variety, and technical nature of its products require the most effective organization possible of a large corps of trained mechanical inspectors. In this connection there arose the question as to whether the inspection department should be organized as a part of the production department, or as a part of the engineering department.

The organization of the company is indicated in Chart I reproduced on this page.

The production department follows rigidly the system of manufacturing to schedule in order that it may be in a position to make deliveries on the dates quoted to customers. Officials of this department believe that it is essential that deliveries be made promptly. Although the executives of the company feel that in many cases customers would prefer to wait a few weeks beyond the delivery date specified rather than re-

Chart I



the inspection department of a manufacturing organization such as this

spection department in a manufacturing organization depends upon the

ceive goods that are mechanically imperfect, the production department, when delays are threatened, is prone to divert materials from other orders to jobs whose completion dates are near. It is feared that this policy may lead to failure to maintain standards on rush jobs. For this reason, it would seem that if the inspection department were organized under the production department it would tend to assume the point of view of the latter and might sacrifice quality for quantity.

Inasmuch as the products of this company are so complex and technical in nature that the standard quality must be maintained if they are to give satisfaction, it is obvious that quality is of prime importance. Furthermore, the basis on which the company sells its products is that of quality, and not price. Consequently, it is believed that placing the inspection department under the production department would not be in accord with the principles which the nature of the company's products require.

On the other hand, if the inspection department is subordinated to the designing engineers there is a possibility that quality only will be considered, and that little regard will be had for the needs of production. The designing engineers are primarily interested in the quality of the products, for the performance of the products in practice is a direct measure not only of the effectiveness of their work, but also of their professional ability.

It is their policy to specify that only the best materials and methods be used, and changes in their specifications are made only when they are thoroughly convinced that superior products will be turned out if other materials and methods are substituted. It was the experience of the company that in the past their designers had often specified tolerances which were more accurate than was necessary, and this had increased production costs considerably. It also had been found that they frequently laid out designs which were perfect from an engineering standpoint, but were ill-suited to the manufacturing facilities which the company possessed. Consequently, it is believed that if the inspectors are placed under the designing engineers the present smoothly-working production schedule is likely to be sacrificed. Moreover, friction may arise if inspection of the production department's work is done under the supervision of another department whose aims with regard to the products are not entirely in accord with those of the executives in charge of manufacturing.

In view of this situation an adequate compromise seems to be offered by placing the inspection department under the testing department, for the duties and nature of this division of the organization are similar. The testing department acts as an intermediary between the designing engineers and the production department. It is responsible for the specifications given to firms from which materials are purchased. It makes special tests of incoming materials, prescribes tests to be used in the inspection of work in process, and endeavors to harmonize the ideas of the designing engineers with the limits of economical production.

Since the testing department is under the supervision of the chief engineer and functions under the engineering department, it would properly give the major emphasis to quality, but because of a more intimate knowledge of production needs it is able to modify the more radical proposals of the engineers in charge of design. This view-point is precisely the one which

to $1.35; and of children's hosiery

an important factor, however, in the

the inspection department of a manufacturing organization such as this should take. Moreover, since the testing department defines the standard on which inspection is based, a further reason exists for making the inspection department subordinate to it, in that such an arrangement would enable control of inspection operations by the same executives who now set the standards.

This case serves to bring out the principle that the position of the inspection department in a manufacturing organization depends upon the importance of quality in the finished product and in the various stages of manufacture. Where quality is of primary importance, inspection must be removed from the control of the production department. It should not, however, be placed under the supervision of a part of the organization whose work cannot be readily coordinated with that of production.

DISTRIBUTION POLICY OF A HOSIERY MANUFACTURER

THE Drury Hosiery Company, located near Philadelphia, had been selling durable low-priced hosiery for men, women, and children for more than a generation. In 1923, 65% of the domestic sales were made to wholesalers; 29% to chain stores, mail-order distributers, and buying syndicates; and 6% to other retailers. At that time the executives of the company became dissatisfied with this policy of distribution and were considering the sale of hosiery directly to department stores, in addition to the existing channels of distribution.

When the mills were operating at full capacity, 60% of the production was women's hosiery, 25% men's, and 15% children's. All Drury hosiery was seamless, being knitted on a circular machine and made in one piece from top to toe. Full-fashioned hosiery, in contrast, was knitted on a flat machine, fashioned to the proper shape, and sewed together. The full-fashioned stocking was considered superior to the seamless stocking in that it fitted the ankle better and held its shape permanently. Although improvements that made this hosiery more satisfactory than formerly had been effected in seamless hosiery machinery, during the period from 1918 to 1923, it was recognized that most consumers were still convinced that full-fashioned hosiery gave a more satisfactory fit. Full-fashioned stockings were more expensive to produce than seamless stockings, and consequently sold at a higher price. The Drury Hosiery Company had no full-fashioned hosiery machinery.

The company had added to the variety of styles and colors of goods manufactured until it was producing, in 1923, 30 styles in approximately 25 colors. In women's hosiery there were several grades of soft-combed cotton stockings, hard-twisted cotton lisle, mercerized cotton, pure fiber silk, pure silk and fiber mixed, fiber silk and wool, and silk and wool. There were, for men, styles made of similar materials, and for children four styles of standard durable hosiery were manufactured. The Drury Company did not produce hosiery in fancy patterns. Changing styles, however, made it necessary for it to produce the more staple lines in many colors. Retail prices of women's hosiery manufactured by the Drury Company ranged from 25 cents to $1.50; of men's hosiery from 25 cents

ings as well as in the purchase of high-grade hosiery.

expected that the volume of sales to wholesalers would continue.

to $1.35; and of children's hosiery from 25 cents to 50 cents per pair.

A national advertising campaign which stressed the durability and low price of the hosiery had been carried on in magazines from 1916 to 1919. In 1920 the profits of the company had declined, and as a result the national advertising had been discontinued, and newspaper advertising substituted in the territories where largest sales had been secured.

A flat price per dozen was quoted to all customers. No quantity discounts were allowed. It had been deemed necessary, however, to make special concessions to important customers at times when trade was inactive. In 1923, 65% of the sales were under the Drury brand, and 35% under wholesalers' private brands. Eighty-two per cent of the sales under the Drury brand were made in New York, Pennsylvania, New Jersey, Maryland, and Ohio; and 18% in all the other states.

Wholesalers with large annual sales preferred to sell hosiery under their own private brands. The executives of the Drury Company, however, desired to reduce sales under private brands, and to increase sales under the Drury brand. Most of the company's wholesale customers were medium- and small-sized firms, whose average yearly purchases amounted to $10,000. Although some advantages were recognized in selling hosiery under the private brands of large wholesalers, the management was opposed to this policy because it tended to make the company too greatly dependent upon a few wholesale customers.

Wholesalers with small- and medium-sized sales volumes distributed hosiery largely to general merchandise stores and retail dry-goods stores in small cities and towns. They were not an important factor, however, in the distribution of hosiery to department stores in large cities. An additional consideration was the fact that mills situated in the southern states were able to produce staple, low-priced cotton hosiery more cheaply than those located in the northern states. Two important southern competitors had been underselling the Drury Company on this type of goods during 1922. Competition from southern mills, however, was not so important on higher grades of hosiery.

Although the traditional policy of the Drury Company had been to distribute entirely through wholesalers, some departure from this policy had been made for reasons of expediency. Early in 1921, when general business depression made it necessary for the company to secure as many orders as possible, it began to sell low-priced, staple hosiery to two chain-store organizations. The company also sold directly to several department stores in the two cities in which its sales offices were located. In addition, sales were made to a few mail-order distributers, and to one or two retail buying syndicates.

During the decade from 1912 to 1922 a change appeared to have taken place in the hosiery trade. Prior to that time durability and economy in price clearly had been the principal buying motives in the purchase of a large part of the hosiery manufactured by the Drury Company. By 1922, however, a marked change had occurred. At that time there was, apparently, a much greater demand than formerly for stylish silk and woolen hosiery. In 1922 and 1923 hosiery colors were subject to rapid changes in popularity, such style preferences appearing in the purchase of low- and medium-priced stock-

the hosiery manufactured by this firm tribution policy is goods which fall into

ings as well as in the purchase of high-grade hosiery.

In order to cope with the existing situation, the sales manager of the Drury Company proposed that the company undertake to make as many sales as possible directly to department stores. There were several objections, however, to this method of distribution. Retailers customarily purchased more frequently and in smaller lots than did wholesalers, the number of customers also would be greater, and therefore, important changes in the sales organization would be necessitated. In selling to wholesalers, furthermore, the Drury Company had not found it necessary to carry finished hosiery in stock. Hosiery was knitted and carried in the grey, but was not dyed until orders were received. It would be necessary to carry dyed stock ready for shipment if the company were to sell to department stores. It was estimated that eventually 200,000 dozen pairs of stockings would be the average stock required. Moreover, if the company were to secure national distribution, it was probable that warehouses would need to be established at central points; yet this step would not be necessary for several years. A serious risk was involved, also, in carrying finished stocks, since the color preference of customers apparently changed with great rapidity. The company made sales to wholesalers in case lots packed only in one style and color, but sales made to department stores would require cases to be made up in assorted styles and colors. If a policy of selling to department stores was inaugurated, the executives of the Drury Company considered that it would be inadvisable to accept orders for less than case lots from this class of customers. Hence, in order to reach the smaller retailers, it was expected that the volume of sales to wholesalers would continue.

In the period following the depression of 1921 there had been a tendency for department stores to increase the proportion of their purchases from wholesalers in order to secure a rapid rate of stock-turn. In 1923 it was not entirely clear whether or not this tendency indicated any permanent change in the buying policy of department stores. More caution in anticipating future requirements was expected, so long as the memory of the experience in 1920 and 1921 remained fresh in the minds of business men. The company did not believe this change to be permanent, however, and concluded that the sales volume could be increased by selling direct to large department stores. It decided, therefore, to develop this method of distribution as fully as possible, as well as to continue selling to general merchandise stores and retail dry-goods stores in smaller cities and towns through wholesalers as at present.

Classification of the Product

A study of the Drury Hosiery Company's problem, like the study of every other marketing problem, should begin with the consumer's point of view, for it is the consumer's buying habits which in the final analysis determine the way in which all goods must be sold if a profit is to be made. The sales policy of the manufacturer must be shaped to get to the consumer the goods which he wants at the time he wants them, and at a price he is willing to pay. For this reason, before any examination of the relative merits of the available channels of distribution can be made, it should be determined into which classification, according to the buying habits and patronage motives of consumers,

and selling it quickly before the cycle has manufacturers of style hosiery with a

the hosiery manufactured by this firm naturally falls.

In determining the type of goods for which the merchandising policy must be formulated, two considerations should be kept in mind. The first of these concerns the tendency of the market toward style hosiery. The second has to do with the limitation imposed by competition upon the goods which this company can manufacture at a profit. As stated above, the past decade has shown that style is becoming an increasingly important factor in the purchase of hosiery, even in the lower grades. To keep pace with the development of the market, the Drury Company would be required to place an increasingly large percentage of its product on a style basis. As a matter of fact, it had already increased its style lines.

It is true that there would always be a considerable demand for the staple low-priced cotton hosiery in the sale of which the style factor does not enter. The company might consider the possibility of continuing to manufacture this product rather than to commit itself to style goods, except for the fact that the competition of southern mills makes such a course unprofitable. It would be advisable that this class of hosiery be eliminated gradually from the company's lines, and production concentrated upon the goods which can be manufactured at a profit. It appears, therefore, that the hosiery for which the company wishes to establish a distribution policy is goods which fall into the shopping classification, because these goods are of the type for which the consumer wishes to make comparison as to price, quality, and style.

After it has been determined that the product of the Drury Hosiery Company falls into the shopping goods classification, the question as to the proper method of distribution of such goods arises. In urban territories shopping goods are marketed largely through department stores. This is true because the concentration of such stores in the retail shopping districts of cities gives the consumer the opportunity which is desired for making comparisons with regard to quality, style, and price. Department stores are therefore an important channel of distribution for this firm.

The question finally resolves itself into determining whether department stores will continue purchasing from wholesalers hosiery of the type which this concern is producing, or whether the tendency will be to buy direct from the manufacturer. Because the style element has become a dominating influence in the Drury Company's product, the question of distribution of style goods must be considered in detail.

Distribution of Style Goods

Making a profit in selling style goods depends upon getting the merchandise as early in the style cycle[1] as possible,

[1] "After a new style of women's garment, for example, has been originated in Paris, it is imported into New York to be taken up by the foremost dressmakers; it is sold as *distinctive*. The next stage in the style cycle is the copying of the style, perhaps with minor modifications, by the manufacturers of women's garments who produce high-quality articles by factory methods. They appeal to the motive of *emulation*. Subsequently, if the style is achieving success, it is exploited in cheaper fabrics and produced in large quantities. At that point the motive of *economical emulation* comes into play, and the style thence proceeds rapidly to extinction. A style is not counted successful until its popularity is assured, and yet as soon as a style commences to attain popularity, the forces that eventually will cause its extinction begin to operate. *Distinctiveness, emulation,* and *economical emulation* mark three distinct stages in the style cycle." M. T. Copeland. *Principles of Merchandising,* p. 167. *See also* Paul T. Cherington, *Harvard Business Review,* Vol. II, No. 4, p. 421.

moving horizontally, or rising as in early

which is bought direct from the manu-

and selling it quickly before the cycle has run its course. Early in the cycle the merchant may realize his full mark-up, but if a large part of his goods is not sold before the period of economical emulation sets in, mark-downs must be taken and the profit is lessened. Later in the cycle further mark-downs, which often result in losses, must be taken. There exists even a chance that the goods cannot be sold at all. For this reason it is essential that style goods be distributed as quickly as possible after their manufacture. Since the introduction of the wholesaler in the distributive chain tends to lengthen the time which it takes to get goods from the manufacturer to the consumer, it seems undesirable that goods in which the style element is of importance be handled through the same distributive channels as goods in which the style element is relatively unimportant.

Style risk results from the movement of the style cycle. It is composed of two major elements. The first of these is caused by the danger that the manufacturer, wholesaler, or retailer may make or buy a new style for which there will be no demand. The other element is the possibility of manufacturing or purchasing a larger quantity of a particular style than will be assimilated by the market during the life of that style. Hosiery in medium- or low-priced lines is purchased by consumers who desire to emulate at the lowest possible price those who set the styles. It follows, therefore, that styles in the lower-priced lines lag behind those of higher-priced goods, because styles must be established before the demand in the lower-priced field is developed.

In the case of the goods manufactured by the Drury Hosiery Company, the necessity of getting early distribution is not as great as in the case of manufacturers of style hosiery with a higher selling price. The goods manufactured by this firm would be purchased by the class of consumers whose principal buying motive is economical emulation. It is highly desirable, however, that the company get its goods on the market as quickly as possible after they are manufactured, because the movement of the later stages of the style cycle is very rapid. Furthermore, the only way in which full advantage may be taken of the period of the cycle adapted to the sale of these goods is to see that they are on the retailers' shelves at its beginning.

The fact that the Drury Hosiery Company manufactures goods which fall into the economical emulation class makes it possible for the company to assume a minimum of style risk. Since the maximum demand comes late in the cycle it is possible to forecast styles accurately by watching closely the higher-priced hosiery on the market. Thus, one element of the style risk is eliminated to a large degree, and the only remaining danger lies in producing hosiery of particular styles in too large quantities. This danger, which would be present in any case, could be minimized by redying colors which could not be sold, thereby transforming the goods into staple lines.

It is true that there developed after the depression of 1921 a tendency on the part of department stores to buy hosiery from wholesalers. This situation, however, may be explained easily. After the crisis of that year the rapid decline of the retail market forced department stores to buy frequently and in small lots, and to sell quickly in order to avoid a loss. A rapid stock-turn had to be secured to keep merchandise from depreciating while on the retailer's shelves. In the case of a market

fact that wholesalers prefer selling un- element than those handled in d

moving horizontally, or rising as in early 1923, the situation is changed. With the market moving sideways a normal merchandising profit is possible for the retailer. In the case of a rising market the situation is even more favorable for him because there is an increment of profit caused by the rise in the price level.

It is not the function of the wholesaler to assume the style risk, for he has the advantage of neither the manufacturer nor the retailer in forecasting style tendencies. The retailer is directly in touch with the market, and it is in his establishment that first-hand style information must be obtained. The only function which the wholesaler can perform, as far as assisting in style forecasting is concerned, is to carry the information from retail buyers to the manufacturer. This can have no other effect than to slow down the distribution of merchandise and make the likelihood of profit less, because of the probable advancement of the style cycle by the time goods are received by the retailer.

If the wholesaler is required to carry the style risk he must be paid for it, and since he must also have a profit it follows that retailers who are of sufficient size to buy in large quantities—and it is into this class that for the most department stores fall—will be forced to pay higher prices to wholesalers than to manufacturers for the same goods. Any desire which the wholesaler might have to spread a part of the style risk over staple lines, which he is carrying in order to distribute style goods at a lower price, will be done away with by competition.

It becomes evident, therefore, that not only must the retailer pay more for the style merchandise which he purchases from a wholesaler than for that which is bought direct from the manufacturer, but also he will get this merchandise later in the style cycle than his competitors who have bought direct. Since these two factors place him at a distinct competitive disadvantage, it seems certain that his style goods will be bought direct. Furthermore, if style hosiery is bought from the manufacturer, it follows that the stores which buy these lines direct will also purchase their staple lines direct, for by doing so they save at least the amount of the wholesaler's net profit without adding proportionately to their expense. The Drury Hosiery Company, therefore, was justified in expecting that hosiery of the class that they were manufacturing would be bought direct by department stores under normal or good business conditions.

There should be little complaint by the wholesaler to a policy of direct sales to department stores by the company, because department stores, for the reasons enumerated above, buy from wholesalers only on a declining market. The company, however, should place itself in a position to take care of fill-in and rush orders which come on a declining market, as well as to make prompt delivery under all conditions of the market by establishing an in-stock department. It is true that this will add to the expense of the producer, but if the company wishes to engage in the manufacture of style goods and to make the profit incident to the manufacturing of such goods, it must assume the style risk. With an in-stock department it will be in a position to handle its sales to department stores at any time with, or without, the assistance of wholesalers.

Another reason for selling a large portion of the product direct rather than through wholesalers lies in the

ple that shopping goods in which the for the product is at its maximum.

fact that wholesalers prefer selling under their private brands. If the Drury Hosiery Company distributed all of its product through wholesalers it would probably be forced to accede to their requests to sell more goods without the company's brand, a policy which would tend to make the company increasingly dependent upon the distributive system it had built up. Increasing the proportion of direct sales under the company's brand, on the other hand, would tend to establish this brand more firmly in the minds of consumers and would make the company less dependent upon its distributive outlets.

If a large wholesaler, selling the company's products under his own brand, discontinued the line, it would be difficult for the company to regain its lost sales because it would have no direct contacts with the market. Much of the value of the past advertising of the company would be lost also if sales under the Drury brand decreased.

Distribution to Small Retailers

In distributing to small retailers in the country and in outlying sections of cities, a practical objection to selling direct arose. Such merchants buy in small quantities and in order to sell a large volume to them it would be necessary to establish an elaborate sales organization. Since a very small sales organization would be required in selling to department stores because a large percentage of goods bought by these institutions would be purchased in the central markets, the setting up of a sales organization for the purpose of handling the business in the country and outlying city districts would cause unwarranted expense. Furthermore, merchants of this latter type ordinarily handle goods which contain less of the style element than those handled in department stores, particularly in the territory served by this company, and consequently the more staple lines would be demanded. It is, therefore, believed that the company should continue its present method of distribution through wholesalers to establishments of this kind.

Discount Policy

There exists a seeming inconsistency in selling to both wholesalers and retailers on the same terms. If it becomes known throughout the trade that the Drury Hosiery Company is selling direct to the large department stores, there might result a movement on the part of small retailers to secure the same terms as the wholesalers by buying direct. Furthermore, it is probable that the adoption of a policy of selling direct to department stores would be misinterpreted by the wholesalers and viewed as a movement to eliminate them entirely from the distribution scheme.

It would be possible to prevent this feeling on the part of the wholesalers and to remove the apparent inconsistency by inaugurating a system of quantity discounts. By this means, the possibility of discrimination by the company against any type of purchaser would be eliminated, for wholesale prices could be obtained only by those who purchase in large enough quantities to assume the functions of the wholesaler. As this is an established method of pricing, it should not lead to misunderstandings between the company and the smaller retailers.

General Significance

Department stores constitute an important part of the market for shopping goods. This case exemplifies the princi-

ple that shopping goods in which the style element is an important factor should be sold by the manufacturer directly to department stores if full advantage of market possibilities is to be taken when the demand of consumers for the product is at its maximum. Practical considerations, however, make it necessary to distribute through wholesalers that portion of the merchandise which is to be sold by smaller and more scattered retail outlets.

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Beckhart, Benjamin Haggott. THE DISCOUNT POLICY OF THE FEDERAL RESERVE SYSTEM. *New York: Henry Holt and Co., 1924. 604 pp. $6.*

The Federal Reserve System has been established for 10 years and has never yet functioned under normal conditions of business. The operations of the system under the exigencies of war and readjustment have been such as to make many people wonder whether or not there has been such a thing as a Federal Reserve discount policy. The policy to be followed in the future, however, and the part which the system will play in the development of American industry and commerce, are matters of vital interest to the business community. While it is generally acknowledged that the system did remarkably well in assuming the enormous responsibilities thrust upon it at its inception, it is nevertheless true that many mistakes have been made and that much remains to be done in the improvement of its operation.

The term "discount policy," in Mr. Beckhart's view, "embraces a good deal more than the mere principles in accordance with which a central bank acts in the raising and the lowering of its rates of discount. It includes the type of paper eligible for discount, the type of collateral which a central bank will accept against advances, and the various methods it employs to protect its gold reserve." At the same time, he confines his analysis largely to the bank rate itself, sacrificing the comprehensive point of view suggested in the definition of his persistent belief that the rate is the fundamental element and the one requiring the most careful and intelligent administration.

Mr. Beckhart builds up the historical background for an understanding of a bank rate by tracing the origin of the function of the bank rate in English banking prior to 1857 and by discussing the administration of central bank rates in England, France, and Germany in the years before the war. From his analysis of these recorded experiences, he draws principles of central bank discount policy which he applies in historical perspective in his treatment of the Federal Reserve System. His principals are, in brief: that the bank rate should be kept above the market rate, and for that effective credit control the former should anticipate changes in the latter; that deflation may be brought about, reserves maintained, and gold imports induced by raising the bank rate; that eligible paper should be carefully defined, with emphasis upon the transactions in which it may originate and upon its liquidity; and that liberal discounting at high rates is an effective policy during a crisis.

After following the development of the highly unorganized banking system of the United States through the various stages of attempted credit control until the passage of the Federal Reserve Act in 1913, the author proceeds to a brief analysis of the act itself. In his opinion its provisions, which are based upon the experience and the best practice of European banking systems, are favorable to the development of a sound discount policy.

At the outbreak of the war the untried Federal Reserve System was put to a severe test. In his examination of the years from 1914 until the entry of the United States into the war, Mr. Beckhart fails to find any clear uniform

ity in the policies of the several Reserve banks. He comments upon the superficial judgment occasionally exercised in the selection of eligible paper and upon a tendency to favor agriculture unduly. The period of American participation in the war is historically pertinent to the discussion, although it contributed little to the establishment of discount policies. During this time, the Federal Reserve rates were maintained below the market, so that the Treasury Department (which then dominated the Reserve System) could float issues of government securities at an artificially low rate of interest. This policy calls for particular condemnation by Mr. Beckhart, because it violates his chief tenet, namely, that the central bank rate must rule above the market. It is his opinion that, in any event, rates should have been raised as soon as Treasury domination was relaxed in January, 1920. The board, he contends, by advancing rates to the market level or higher could have done much to check inflation. Three reasons, he finds, prevented the adoption of the policy which he advocates: first, the fear, on the part of those in authority, of precipitating a rapid and disastrous deflation; second, the absence of any working theory as to the deflation of credit and prices; and third, lack of confidence, on the part of the Reserve banks, in the efficacy of their own rediscount rates. This same vagueness as to fundamental policies continued into the period of depression, and the system's unpopularity consequently resulted when the Reserve banks finally ceased to give comfort to inflation and lent their assistance in the deflation which but for them would have come sooner.

The business experience of recent years is contributing to a Federal Reserve discount policy which will at some time be established. While the author gives the Reserve banks credit for some notable achievements in the face of difficult circumstances, he finds that they have no consistent philosophy of credit, prices, or discount rates and that their operations have too often been influenced by popular sentiment.

Mr. Beckhart's views as to what constitutes a satisfactory discount policy may be summarized as follows:

1. The discount policy, especially in regard to changes in the rediscount rate, should be governed largely by changes in the general level of prices.

2. The rediscount rates of the various Reserve banks should differ one from another in accordance with economic conditions in the areas tributary to each bank. These rates should rule above the market rate at all times and, in the absence of special reasons to the contrary, should fluctuate in unison.

3. The various Reserve banks should maintain a uniform open-market policy regulated in accordance with fluctuations in the price level.

4. The Reserve banks should at all times be conducted in such a way as to promote the economic stability of the country. They were created for this purpose and not merely to relieve seasonal credit strain or to prevent panics. They were certainly not intended to be an agency for allowing member banks to rediscount at a profit. If the system is to perform its function effectively, it must be free from political influence.

There are students of finance who will not agree with the things Mr. Beckhart says and who hold that the Federal Reserve System is capable of doing far more harm than good. There are many more who will agree with his general conclusions, though they may find that his analysis fails to weigh properly the importance of open-market operations in a discount policy, and though their

judgment may not confirm his confidence as to the controlling power of the discount rate. The book is a careful presentation of a widely held point of view and is well worthy of the attention of those interested in the economic future of the United States.

Shurick, A. T. THE COAL INDUSTRY. *Boston: Little, Brown & Company, 1924. 383 pp. $3.50.*

One of the leading lecturers on labor problems recently made the statement that he often draws his illustrations from the coal fields because the average person is unfamiliar with, but exceedingly interested in, this industry. For this lack of general familiarity, there are two reasons. In the first place, most coal mines are located in out-of-the-way places rarely visited by any great number of outsiders. Secondly, there has been available in printed form no true and complete account of the conditions existing in the coal industry. Mr. Shurick's book fills this need. Previous works upon the subject have been either of a strictly technical nature, or have been narratives of experience in the coal mines: this one is a comprehensive, well-organized, and non-technical discussion of the industry.

While the treatment is in no sense statistical, many valuable figures relating to coal deposits, reserves, production, and prices are found in the text and the Appendix. The author has not seen fit to reduce his figures to a single unit, though by so doing he might have aided his readers in making comparisons. When it is pointed out that the units he has chosen are those which will be used in reporting the figures for years to come, his course in this matter seems entirely justified.

Mr. Shurick adopts the four major subdivisions into which the subject naturally falls. He describes, first, all the important coal deposits in the United States, beginning with the first discoveries, and passes on to the consideration of reserves. In the second part of the book, mining methods and the history of their improvement are dealt with. Answers are given to the questions which would naturally come to the reader's mind—how is a coal mine developed; how is it ventilated and lighted; how is the coal actually mined, brought to the surface, and prepared for use? The next division treats of mine disasters and explains the causes of many of the more recent ones. At the same time, the reader is informed that the great explosions which receive so much attention from the newspapers are responsible for only a small percentage of the total mine fatalities. The fourth general heading covers the problems arising out of the distribution of coal. The author here points out a relationship seldom considered by consumers—namely, that of coal values to coal varieties. He discusses markets and marketing methods in a comprehensive and instructive manner. The last portion of the book is given over to the economic and sociological factors in the industry which constitute its most interesting phase. The retail price of coal is broken down into its constituent elements—production cost, marketing cost, transportation cost, and profit. Living conditions and earnings among the miners, the place and influence of labor unions, and the organization structure of coal companies are touched upon.

The book may be justly criticized in that not enough space is devoted to the economic and social matters just mentioned. The widely different conditions which obtain in different coal fields make it impossible to handle these important matters satisfactorily within the limited number of pages devoted to them.

Notwithstanding its few minor shortcomings, the book is a thorough, reliable, and, at the same time, readable treatise upon one of our basic industries. It is unique in its interesting and comprehensive treatment of a comparatively neglected subject and must be instantly recognized as a significant contribution to business literature.

Withers, Hartley. BANKERS AND CREDIT. *London: Eveleigh Nash and Grayson, 1924. 294 pp. 8s.*

Notwithstanding its rather prosaic title, this book tells a most interesting story. The characters are the political heroes of war-time England, and the plot hinges on their triflings with the monetary standard.

In 1914 the English statesman came into possession of the most nearly perfect monetary system yet devised. After a few months of war, this delicate and powerful mechanism became the ruthless agent of a half-blind, half-unconscious manipulation. In spite of the fact that experience had clearly shown that taxation furnished the only just and economical means of financing a war, the leaders, yielding to expediency, decreed that this war should be paid for by the creation of currency. Under this method comparatively few were taxed and no one bothered to save. Instead, the monetary standard was debased by the multiplication of bank credits and paper currency. It was then that the villain entered in the guise of inflation, and with him came all the evils of an unnatural rise in prices. The unsettlement of money values added enormously to the cost of the war and to the debt left behind; it made possible the post-war speculative outburst, the subsequent collapse, the bankruptcies and disillusionments; it taught business men not to bother about economies, because profits increased faster than costs; and it made the ignorant believe that the manufacturers and merchants were pitilessly fleecing the nation.

So the war was financed—at what a cost the reading of this fascinating book will show. The politicians cannot be blamed entirely, for they failed to realize what forces they were setting in operation when they made reckless use of a delicate machine. With 1920 came the inevitable collapse. The disorganized state of the monetary system was at last apparent to everyone. Innumerable critics offered suggestions for reform. One pointed the way to economic salvation by further insidious inflation, another broached a doctrine too vague for the mind to grasp, while a third wanted the level of prices kept steady through artificial regulation of the volume of currency.

Visionary schemes of inflation Mr. Withers dismisses by pointing to the recent past. He then shows that the proposals to regulate prices by the management of credit and currency are, first, unwise, because they involve arbitrary action by the government; and second, unsound, because, while it is possible to contract credit by increasing its price, it is not always possible to expand it by reducing its price. Even though the Bank of England eases the money market by purchasing bills and securities, no lowering of discount rates will appreciably stimulate the use of credit unless traders and borrowers can see their way toward making profits. Without resorting to tedious statements or dogmatic reasoning, Mr. Withers shows conclusively that a return to the pre-war gold standard is the only practical course. He has done extremely well with the difficult task of presenting sound monetary doctrine in a readable and entertaining fashion.

BOOK NOTICES

Atkins, W. E. and Lasswell, H. D. LABOR ATTITUDES AND PROBLEMS. *New York: Prentice-Hall, Inc., 1924. 520 pp. $5.*

Though this book is written primarily for use as a college text, the material is presented in such a style as to be interesting and useful to other groups of students.

The first chapters, which deal with the labor condition existing in several industries, form a background for the subsequent discussion of facts and theories concerning the status, standards, and philosophies of labor. A list of questions designed to encourage independent thinking follows each chapter.

Babcock, Frederick M. THE APPRAISAL OF REAL ESTATE. *New York: The Macmillan Company, 1924. 380 pp. $3.50.*

This is the third volume of a course in real estate outlined by the joint committee representing the National Association of Real Estate Boards, The United Y. M. C. A. Schools, and the Institute for Research in Land Economics and Public Utilities. Richard T. Ely, director of the organization last named, is the editor. The author has discussed the subject from a scientific and professional standpoint, with emphasis upon organization. The several methods of building up, or arriving at, an appraisal, with the particular types of property to which they are applicable, are clearly stated. Appraisal by a comparison of values determined by different methods is emphasized. Formulae are developed where their use is practicable, and working tables are provided. Throughout the volume a systematic and professional procedure in land evaluation is outlined.

Bliss, James H. MANAGEMENT THROUGH ACCOUNTS. *New York: The Ronald Press Co., 1924. 851 pp. $6.*

With the increase in the size of business organizations, statistical and accounting controls have become indispensable tools of management. Mr. Bliss' book deals at length with the interpretation of accounting and statistical reports, inter-company accounts, and cost accounting. Several chapters are devoted to a discussion of joint costs and other phases of accounting applicable to the meat-packing industry in particular. Special emphasis is laid on the use of financial and operating ratios.

Butterbaugh, Wayne E. PRINCIPLES OF IMPORTING. *New York: D. Appleton and Co., 1924. 473 pp. $5.*

This book differs from others on our commerce with foreign countries in that it is devoted entirely to the import trade. Its material, collected in large part from the actual business field, is presented in a very practical fashion. The steps connected with the organization of an import business, as well as its operation as a going concern, are discussed in detail. Mr. Butterbaugh follows through the entire procedure of importing, from the time the merchandise is purchased abroad until it is sold in this country. He lays particular emphasis upon a subject which he believes to have received insufficient attention; namely, the details of passing goods into the country through the United States customs. The volume contains a valuable glossary of import and customs terms, and a bibliography.

Copeland, Melvin T. PRINCIPLES OF MERCHANDISING. *Chicago: A. W. Shaw Company, 1924. 362 pp. $4.*

Though the application of scientific methods of study to the problems of production is a recognized success, the problems of distribution have, until recently, received much less attention from students of business than they deserve. Mr. Copeland, one of the first investigators to apply a strictly scientific method to questions of marketing, has made many contributions to the subject by his recognition and formulation of sound principles of merchandising. Much of his later work has been closely connected with that of the Harvard Bureau of Business Research, which has collected and analyzed thousands of cases taken from the field of business. Upon this foundation of adequately representative facts, Mr. Copeland has made a classification of merchandise and an analysis of buying motives which will aid in the scientific formulation of plans of distribution.

The opening chapter gives a brief survey of some of the problems in distribution and of the aims and objectives of merchandising as related to such problems. From this introductory chapter, Mr. Copeland proceeds to a discussion of the four classifications of merchandise; namely, convenience, shopping, specialty, and industrial goods. In the discussion of each, certain principles, which should be

noted in the selection of merchandising plans, are considered. Buying and patronage motives, for both consumers' and industrial goods, are taken up next. This classification of motives was made after an extensive survey and analysis of many advertisements which have appeared in well-known magazines. Mr. Copeland brings out clearly the relation between the motives which prompt individuals and companies to buy goods and the methods of merchandising which should be employed.

The remainder of the book contains a discussion of the following subjects: methods of management, selection, and payment of salesmen; advertising and its relation to merchandising methods; stock-turn, which emphasizes the importance of planning stocks in advance; and, finally, price policies as related to merchandising principles.

Finney, H. A. PRINCIPLES OF ACCOUNTING. *New York: Prentice-Hall, Inc., 1923. 2 volumes. $5 per volume.*

Mr. Finney has covered the field of accounting theory and practice in a complete, orthodox, and thoroughly sound manner. The book is intended as a text in advanced accounting and is well suited to the purpose by reason of the arrangement of material and the inclusion of questions and problems. Matters of procedure are made clear by the extended use of well-designed illustrations. The five chapters devoted to consolidated balance sheets are a useful addition to the published material in a field which has received scant attention from writers on accountancy.

Gray, Lewis Cecil. INTRODUCTION TO AGRICULTURAL ECONOMICS. *New York: The Macmillan Company, 1924. 556 pp. $2.50.*

In spite of the growth of industry in the United States, it is the opinion of many authorities that our national economy is still primarily agricultural and that there can be no prosperity in the country unless agriculture is on a sound basis.

Mr. Gray defines agricultural economics and its relation to economics in general, and goes on to the treatment of farm management, land tenure, capital and credits, population, farm labor, and methods of marketing farm products. Marketing processes are described for specific crops as a setting for the discussion of value and price—presumably the vital subjects of economics. The subject is closed with a treatment of cooperative associations, which it is felt is needed to make such a work complete.

Greene, James H. PRINCIPLES AND METHODS OF RETAILING. *New York: McGraw-Hill Book Co., Inc., 1924. 287 pp. $2.50.*

This book is the outgrowth of a series of lectures and group discussions given in the Evening School of Business Administration and the Retail Bureau of the University of Pittsburgh. Although the treatment of the subject is elementary, it should prove of value to groups entering the study of retailing, to those who are studying independently, and to executives in other lines of business who desire a comprehensive yet elementary treatise on this subject.

The author discusses, among other things, the principles and methods of selecting a location for a retail business; methods of determining prices; principles in buying, receiving, and marking goods; retail publicity; extending retail credits; making collections; service to customers; and training employees. The opening chapter, dealing with the development of retailing, contains much interesting and valuable information which furnishes a background for further study of the subject. While many of the chapters that follow are treated rather superficially but the book, as a whole, offers a valuable and up-to-date survey of the entire problem of retail store management.

Hotchkiss, George Burton. ADVERTISING COPY. *New York: Harper & Brothers, 1924. 471 pp. $3.50.*

Mr. Hotchkiss' experience as a 'copy-writer with a leading advertising agency and as a teacher of business English renders him well qualified to discuss this subject. In this book he covers the field of advertising, and applies the fundamental rules of English composition to the particular business of writing copy. The various points are emphasized by the use of extremely interesting illustrative material taken from actual advertisements in recent publications.

Kirshman, John Emmett. PRINCIPLES OF INVESTMENT. *Chicago: A. W. Shaw Company, 1924. 902 pp. $5.*

While it is unreasonable to expect that investment can ever approach the status of an exact science, its study (like that of any branch of applied economics) should be un-

dertaken in the light of an organized body of knowledge. Mr. Kirshman's book presents a large part of all the information available on the subject. His discussion centers on the analysis of the risk element and the price-determining factors of the various kinds of investments. Every issue of securities carries its own risk; in addition its price is much affected by external circumstances, chief among which is the money market.

In separate sections, the author deals with the economic bases of investment; the elements of investment credit and their application; the movements of the prices of securities; and lastly, investment policy.

Kohler, Eric L. ACCOUNTING PRINCIPLES UNDERLYING FEDERAL INCOME TAXES, *1925. Chicago: A. W. Shaw Company, 1925. 630 pp. $5.*

The author of this book discusses the application of the definitely established principles of federal income tax procedure to the accounting for individual or corporate income. The law and regulations are condensed so that the layman may secure information bearing on his particular case without digging through a mass of technical material. The 1925 edition of this book covers the many important changes made in the income tax law during the past year.

In addition to the descriptive matter a number of problems and questions are given in the Appendix to aid the reader and to make the book more useful as a text. In a supplementary volume the solutions to the problems are made available for the use of instructors.

Lee, John. INDUSTRIAL ORGANIZATION. *New York: Prentice-Hall, Incorporated, 1923. 119 pp. $2.*

This volume is a presentation, in convenient form, of a series of lectures delivered by Mr. Lee at Cambridge University in 1922. The author discusses recent developments in industrial organization throughout the world without advocating any one in particular.

"Industrial organization" he defines as the effort to bring about cooperation between management and labor through organization. The salient feature of his discussion is the "works council." Each of the important European countries and the United States is attempting to accomplish the same result in this regard. The different methods of attack, varying from the highly crystallized national organization in Germany to the individual shop committees in the United States, are contrasted.

The final chapters indicate the direction of the main tendencies in the organized relation between management and labor. As the author states, they contain much conjecture, and are offered tentatively.

Maltbie, W. H. THEORY AND PRACTICE OF PUBLIC UTILITY VALUATION. *New York: McGraw-Hill Book Co., Inc., 1924. 201 pp. $2.*

The valuation of public utilities for purposes of rate-making is a problem of current interest to investors and to the general public. At the present time various theories are held concerning the problem, to the solution of which courts and commissions are making daily contributions. In a concise and well-reasoned statement the author presents his conclusions on the various controversial elements of the subject, and on the principal theories of valuation which are currently supported. The informal style of the book contributes to a clear and logical consideration of this difficult subject.

Moulton, H. G. THE REPARATION PLAN. *New York: McGraw-Hill Book Co., Inc., 1924. 325 pp. $2.50.*

The economic future of Europe, in general, and the Dawes report, in particular, are of unquestioned importance to American business. Mr. Moulton is well known as one of the authors of "Germany's Capacity to Pay." Assisted by the council and staff of the Institute of Economics, he gives, in the present volume, his appraisal of the Dawes plan.

Each point in the plan is considered separately, and with an analysis so searching as to greatly clarify one's understanding of the highly technical financial mechanisms involved. The unsettled points, such as the problem of transferring the funds from Germany, are critically discussed, and predictions are made as to what developments may reasonably be expected in these matters. The report in full is given for reference. The treatment is no more technical than the subject-matter absolutely requires, and because of this fact will be found especially valuable by the general reader.

Munn, Glenn G. ENCYCLOPEDIA OF BANKING AND FINANCE. *New York: The Banker's Publishing Company, 1924. 586 pp. $10.*

This volume, the first complete encyclo-

pedia of banking and finance to be published, is designed to take the place in this field which other encyclopedias hold in the fields of law, engineering, accounting, and other professions. It contains approximately 3,000 definitions and explanations of words, phrases, and terms which are encountered in the vocabulary of financiers and investors, as well as the complete text of the thirteen most important federal bank laws and regulations.

The definitions and explanations have been carefully prepared with a view toward comprehensiveness, accuracy, and convenience. The subject-matter is alphabetically arranged and is readily accessible. Where the explanations involve the use of other financial terms cross-references have been employed.

While the work has been prepared primarily for the banker, broker, financier, and student, it also should be of value as a reference book to the business man.

Nash, Bradley D. INVESTMENT BANKING IN ENGLAND. *Chicago: A. W. Shaw Company, 1924. 114 pp. $1.75.*

This book received the first prize given by the Chicago Trust Company for original research work relating to business development and the modern trust company.

The background for an understanding of English investment banking is given in a brief résumé of its development prior to and since the Companies Act of 1862, when the principle of limited liability was established. The author describes the London Stock Exchange, and compares it with the New York Exchange. He points out clearly the characteristics of English investment banking, showing the system to be more specialized than its counterpart in America. The English investment bankers do not hold securities for a profit, but sell out at once; nor do they desire to have a hand in the management of their promotions. The outstanding feature is the fact that they neglect local industries, 60% of which are financed directly.

The various steps of promotion are given in detail, along with a description of the functions of the jobber, the "inside" broker, and the "outside" broker. Much emphasis is placed upon the fact that the promoter rather than the issue house must take care of the financial needs of most English industrial promotions. The avenues open to the general run of English investors are given a general treatment; a comparison of the broker with the branch bank is drawn, and the investment trust is mentioned. In Mr. Nash's opinion, the brokers are the mainstay of the entire English system.

Riegel, Robert. ELEMENTS OF BUSINESS STATISTICS. *New York: D. Appleton and Company, 1924. 549 pp. $4.*

Before the science of statistics can render the greatest aid in the solution of business problems, its principles must be popularized. This book points the way; it applies statistical theory to business in a most practical fashion. The methods and purposes of business statistics are indicated, while more important matters—the interpretation of facts by statistical means, and the drawing of general conclusions from facts so interpreted—are stressed.

Russell, Frederic A. TEXTBOOK OF SALESMANSHIP. *New York: McGraw-Hill Book Co., Inc., 1924. 319 pp. $3.*

This book is designed primarily for use as a text-book for college or university classes in salesmanship. There are, however, numerous suggestions that should prove of practical value to men engaged in the business of selling. The author has attempted to illustrate the theory by introducing the actual experiences and opinions of successful salesmen and sales managers. These quotations are valuable for two reasons: (1) They give the student or general reader some acquaintance with the working vocabulary and view-point of the practical salesman; (2) One person's opinion cannot carry as much weight as must be conceded to the ideas of many successful salesmen and sales managers.

The book outlines accepted methods of gaining the interview, of approach, of demonstration, of meeting objections, and of making the close and departure. In the analysis of the pre-approach, the author introduces a discussion of physiognomy and phrenology. Such theories are discredited generally and seemingly should not have a place in a treatise on salesmanship. Nevertheless, the book is very complete and contains the latest applications of the theories of salesmanship.

Scovell, Clinton B. INTEREST AS A COST. *New York: The Ronald Press Company, 1924. 254 pp. $2.50.*

Economists have generally considered interest on capital invested in plant and other fixed assets as a cost of doing business. Though ac-

countants have recognized the validity of this theory, they have usually been unwilling to legitimatize interest as a cost by putting it on the cost accounting books. In the face of this current practice, a small group of accountants has been persistent in the belief that the costs can be shown on the books only when interest is included. Mr. Scovell, one of the most ardent champions of the cause, examines in this book the arguments on both sides of the question. By his discussion of the economic, accounting, and legal phases of the problem, he contributes to accounting literature a concise résumé of the subject, discussions of which heretofore have been scattered among numerous sources.

Speaker, Lawrence M. THE INVESTMENT TRUST. *Chicago: A. W. Shaw Company, 1924. 112 pp. $1.75.*

This book was one of the prize winners in the Chicago Trust Company's competition for original work in finance.

Mr. Speaker presents an interesting study of the development and present status of the investment trust. While a large part of the discussion is necessarily confined to England—where the greatest development has taken place, there are chapters devoted to the use of these trusts by Americans for both domestic and foreign investments. The economic function of the trust is considered, as well as its possible use in connection with the funding of European war debts.

Vanderblue, Homer B. PROBLEMS IN BUSINESS ECONOMICS. *Chicago: A. W. Shaw Company, 1924. 631 pp. $5.*

This volume, the latest of the Harvard Problem Books, develops the importance of consciously correct economic thinking in the formation of sound business judgments. It brings to the field of executive control not only generally accepted economic principles, but also principles developed from statistical analysis of the fluctuations of business. The application of these principles is illustrated by actual cases taken from recent business experience. In its economic and statistical treatment the book represents one of the most important schools of thought on the subject of business cycles.

The first division, called "The Business Cycle," contains a preliminary discussion of cyclical phenomena. This is followed by a non-technical explanation of the statistical methods used by the Harvard University Committee on Economic Research in the forecasting and interpretation of changes in business conditions. Cyclical variations are then discussed as they manifest themselves in the volume of manufacture and employment, in advertising, in merchandising, in bond yields and money rates, and in the experience of an individual manufacturing concern.

The cases presented in the major portion of the book furnish the means of reducing to specific decisions the general principles of economic and cyclical theory. For logical treatment, the cases are grouped under the general headings of Financial, Operating, and Distribution, each case bringing out one or more phases of the general problem. This classification forms the foundation for a scientific building up of economic theory in relation to business. The problems originate in and must be decided through a correct application of the sound economic principles developed in the introductory discussion and in the background of material which is given for each case.

The final chapters deal with methods of measuring business fluctuations. Standard statistical data and indices are presented in tabular form to aid in the application to individual problems and to actual business situations of the principles developed in the body of the volume.

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